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ARTIFICIAL INTELLIGENCE AND CONTRACTUAL LIABILITY UNDER POLISH LAW. SELECTED ISSUES

Abstract

Background: Growing presence of artificial intelligence (AI) in the public sphere, and its ensuing 'robot-human' and 'robot-environment' interactions, can certainly affect the rules of contractual liability.
Research purpose: The article analyses how AI and its commercialization can impact on Polish legal regulations governing contractual relations and the contractual liability. The purpose of this article is to present the issue of the AI impact on the conclusion and performance of contracts in Polish civil law, with particular emphasis on contractual liability arising in this context, as well as potential problems associated with it, not only for parties to a contract, but also for lawyers who have to face a puzzle of finding legal solutions to technological progress making real mechanisms that until recently have been treated in science-fiction categories.
Methods: The analysis is based on the dogmatic and legal method.
Conclusions: It is necessary to distinguish between situations where artificial intelligence is a subject of the contract, and cases where artificial intelligence is a party to the contract. In the former case, it seems that the current general provisions on contractual liability, as well as the provisions governing individual contracts, can be used to a considerable extent. However, contractual liability seems to be much more problematic when a robot is a party to the contract. This issue is inseparable from the developing of intelligent robots (artificial intelligence) and possibly the granting of legal personality to them.

Keywords: B2B contracts, warranty for defects, black box, legal personality.

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1. Introduction[1]

The intensive development of artificial intelligence (AI) is becoming increasingly visible, not only in its natural environment of technology and IT, but also in spheres ranging from everyday life to sciences such as Medicine[2] and Psychology.[3] One discipline which is not, and should not remain, indifferent to the increasing presence of AI in everyday life is Law.

Embodied artificial intelligence, i.e., having a material carrier in the form of robots or other devices, or non-embodied in the form of, e.g., various algorithms, can be a source of harm. It is enough to mention, e.g., road accidents caused by autonomous vehicles.[4] Therefore, the question arises whether the current provisions on tort liability (e.g., liability for own acts, liability for a dangerous product, vicarious liability, *etc.*) are sufficient to compensate the injured party. Artificial intelligence also increasingly influences contract law. On the one hand, various forms of AI may be a subject of the contract, thus determining specific rights and obligations of parties to the contract, from

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1 All translations from Polish into English are by the author of the present work unless otherwise noted.

2 See e.g., **L. Tsang et al.**, *The Impact of Artificial Intelligence on Medical Innovation in the European Union and United States*, Intellectual Property & Technology Law Journal 2017/29, pp. 3–11; **Ch.Tack**, *Artificial intelligence and machine learning – applications in musculoskeletal physiotherapy*, Musculoskeletal Science and Practice 2019/39, pp. 164–169, https://doi.org/10.1016/j.msksp.2018.11.012; **Th. Hoeren**, **M. Niehoff**, *Artificial Intelligence in Medical Diagnoses and the Right to Explanation*, European Data Protection Law Review 2018/3, pp. 308–319, https://doi.org/10.21552/edpl/2018/3/9; **W.N.P. II**, *Medical AI and contextual bias*, Harvard Journal of Law & Technology 2019/33, pp. 65–116; **P. Księżak**, *Sztuczna inteligencja i roboty autonomiczne w medycynie*, in: **D. Bach-Golecka**, **R. Stankiewicz** (red.), *Organizacja systemu ochrony zdrowia. System prawa medycznego. Vol. 3*, C.H. Beck, Warszawa 2020, pp. 1185–1220; *AI diagnostics need attention*, https://www.nature.com/articles/d41586-018-03067-x; accessed 21.02.2022.

3 E.g., **F.L. de Mello**, **S.A. de Souza**, *Psychotherapy and Artificial Intelligence: A Proposal for Alignment*, Frontiers in Psychology 2019/10, pp. 1–9, https://doi.org/10.3389/fpsyg.2019.00263; **M. Tahan**, *Artificial Intelligence applications and psychology: An overview*, Neuropsychopharmacologia Hungarica 2019/21 (3), pp. 119–126; **A. Wawer et al.**, *Single and Cross-Disorder Detection for Autism and Schizophrenia*, Cognitive Computation 2022/14, pp. 461–473, https://doi.org/10.1007/s12559-021-09834-9

4 **M. Matusiak-Frącczak**, **Ł. Frącczak**, *Prawne aspekty dopuszczenia pojazdów autonomicznych do ruchu lądowego – wyzwanie dla polskiego ustawodawcy. Zarys problemu*, Studia Prawno-Ekonomiczne 2018/CVII, s. 93–106, https://doi.org/10.26485/SPE/2018/107/6; **G. Urbanik**, *Odpowiedzialność za szkody wyrządzone przez pojazd autonomiczny w kontekście art. 446 kc*, Studia Prawnicze. Rozprawy i Materiały 2019/2 (25), pp. 83–95.

the production stage, through distribution, to the end user. What is more, artificial intelligence may one day be a party to the contract. Even if it still sounds unreal, it certainly captures imagination of lawyers. Today, algorithm-based applications can perform not only 'automated', schematic activities. These applications begin to make increasingly autonomous decisions, limiting the role of a human factor. Sending advertisements to consumers, virtual discussions with users / customers of websites, portals, institutions, or credit scoring are just a few examples illustrating the impact of artificial intelligence on contract law. It can be seen, therefore, that civil law is one of the areas of law that is strongly influenced by artificial intelligence. In the absence of solutions appropriate only to artificial intelligence and in anticipation of such solutions,[5] one should focus on a possibility of using the current regulations to solve emerging problems.

2. The concept of Artificial Intelligence and the method of its activity as a source of legal doubts

there is no single, universally accepted definition of artificial intelligence. For the purposes of this article, two documents are particularly relevant. The Draft Report with recommendations to the Commission on a civil liability regime for artificial intelligence 2020/2014 (INL) published on 5 October 2020 (hereinafter 'Draft Report')[6] is the first one because, unlike previous EU initiatives in the field of AI, this document contains specific proposals for legislative solutions. The Draft Report defines artificial intelligence as 'a system that is either software-based or embedded in hardware devices and displays behaviour simulating intelligence by, inter alia, collecting and processing data, analysing and interpreting its environment, and by taking action, with some degree of autonomy,[7] to achieve specific goals' (Draft Report, art. 3a). The second

[5] The idea of basing a new legal framework for civil law at the European level on the concept of AI and not on the concept of the robots is noteworthy. About this issue: **P. Księżak**, **S. Wojtczak**, *AI versus robot: in search of a domain for the new European civil law*, Law, Innovation and Technology 2020/12, pp. 297–317, https://doi.org/10.1080/17579961.2020.1815404

[6] Draft Report with recommendations to the Commission on a civil liability regime for artificial intelligence 2020/2014 (INL), https://www.europarl.europa.eu/doceo/document/A-9-2020-0178_EN.html; accessed 17.02.2022.

[7] The authors of the document also propose the following definition of autonomy: 'an AI-system that operates by interpreting certain input and by using a set of pre-determined instructions, without being limited to such instructions, despite the system's behaviour being constrained

one is the Proposal for a regulation of the European Parliament and the Council laying down harmonised rules on artificial intelligence and amending certain Union legislative acts published on 21 April 2021 (hereinafter "AI Act").[8] This document, in its Article 3 point (1), defines an 'artificial intelligence system' (AI system) as "software that is developed with one or more of the techniques and approaches [like for example machine learning approaches, logic- and knowledge-based approaches or statistical approaches[9]] and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with". At the same time, AI Act describes performance of an AI system as "the ability of an AI system to achieve its intended purpose" (Art. 3 point (18)).

AI systems are very much reliant on the data they are provided with (training data[10] and input data[11]), as it acts as the basis for the algorithm to learn and then make its own decisions. These decisions are often refined by the algorithm, along with a certain amount of data that it has collected and processed. Moreover, an algorithm (and AI systems generally) can often demonstrate a phenomenon known as 'black box'.[12] This means that we can see the input and output data, while the processing itself is unavailable to us. Therefore, in the case of such an algorithm, even its creators are not able to predict its behaviour according to its analysis of specific data. As such, one may be tempted to say that the operation of the algorithm is to some extent

by, and targeted at, fulfilling the goal it was given and other relevant design choices made by its developer' (Draft Report, art. 3b).

8 Proposal for a regulation of the European Parliament and the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain Union legislative acts, COM/2021/206 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0206; accessed 17.02.2022.

9 Those techniques and approches are listed in Annex I to AI Act: Annex I artificial intelligence techniques and approaches referred to in article 3, point 1, https://eur-lex.europa.eu/resource.html?uri=cellar:e0649735-a372-11eb-9585-01aa75ed71a1.0001.02/DOC_2&format=PDF; accessed 17.02.2022.

10 AI Act, art. 3 point (29): 'training data' means data used for training an AI system through fitting its learnable parameters, including the weights of a neural network.

11 AI Act, art. 3 point (32): 'input data' means data provided to or directly acquired by an AI system based on which the system produces an output.

12 E.g., **Y. Bathaee**, *The Artificial Intelligence Black Box and The Failure of Intent and Causation*, Harvard Journal of Law and Technology 2018/31, pp. 890–938; **R. Feldman**, **E. Aldana**, **K. Stein**, *Artificial Intelligence in the Health Care Space: How We Can Trust What We Cannot Know*, Stanford Law and Policy Review 2019/30:399, pp. 400–419, https://repository.uchastings.edu/faculty_scholarship/1753; accessed 21.02.2022.

unpredictable. This, in turn raises legal questions about the proper performance of the contract by the supplier of an algorithm or another system based on AI: its behaviour may differ from assumptions of the contracting party. It will also be important to 'train' an algorithm properly by 'feeding' it with data of appropriate quality. Often, even a professionally designed AI system may malfunction if it is based on incorrect or inadequate data and it acts on this basis. At this point, it is worth mentioning the case of Amazon, which created an AI algorithm for recruitment purposes: although it was designed to improve the entire process and help select the best candidates for work, the tool was finally abandoned when it was found to discriminate against women. This behaviour was attributed to the fact that the algorithm was trained using the CVs of candidates applying for work at Amazon in the last 10 years, when mainly men applied. Clearly, AI remains imperfect. In addition, AI-based systems may also malfunction due to errors occurring in the programming phase. So how do we make a legal assessment of these types of cases?

3. Artificial Intelligence as the subject of the contract

the fact that AI demands interest of lawyers is evidenced by the fact that increasing numbers of contracts dealt with in civil law transactions are a subject of systems based on algorithms. In Poland, as in many other countries, there are still no solutions appropriate only to AI. As a result, at the moment, all issues relating to AI in contractual relations between parties must be regulated with the use of currently applicable laws and legal institutions that best reflect the essence of a specific problem in a specific contractual relationship, even if these solutions are not ideal. When AI is the subject of the contract, it seems that the existing general provisions governing contractual liability are broadly applicable, as well as those regulating individual contracts, such as a sales contract (pl. *umowa sprzedaży*) or contract for specific work (specific-task contract, pl. *umowa o dzieło*). However, a question arises whether the solutions contained in the Polish Civil Code are sufficient to balance properly the interests of both parties to the contract in the event of damage related to the provision of solutions based on artificial intelligence. This issue is important especially in two types of relationships, *viz.* those between entrepreneurs (B2B contracts), where one orders a solution using AI and the other is its supplier, and between an entrepreneur offering such a solution and a consumer purchasing it (B2C contracts). The two relationships are shaped differently due to the status of the party to the contract: the consumer, due to their weaker economic position, is always better protected

by law.[13] Due to the limited scope of this article, but also due to the principle of freedom of contracts governing the formation of contracts between entrepreneurs and often the problematic creativity of entrepreneurs (or its complete lack), I will limit the analysis of the problem to B2B contracts.

a) B2B contracts involving AI

In the case of contracts related to the broadly understood artificial intelligence and concluded between entrepreneurs, the rights and obligations of the parties will, to a substantial extent, be freely shaped by them based on the principle of freedom of contracts. Of course, the parties may use the construction of one of the contracts named in the Civil Code[14] which suits their needs, but they can also regulate their mutual relations in a completely innovative way (by concluding a *sui generis* contract), subject only to the general mandatory provisions and to the public order.[15] The path from creating a robot / non-embodied AI to the end-user embracing it, is often dotted with point contracts. At the stage of production / creation of a robot or an application based on AI systems, there may be multiple contracts having as their object the components of the final product.

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[13] **L. Bosek**, *Perspektywy rozwoju odpowiedzialności cywilnej za inteligentne roboty*, Forum Prawnicze 2019/2, pp. 3–17; **M. Namysłowska**, **A. Jabłonowska**, *Personalizacja oparta na sztucznej inteligencji – nowe wyzwanie dla prawa konsumenckiego*, in: **L. Lai**, **M. Świerczyński** (red.), *Prawo sztucznej inteligencji*, C.H. Beck, Warszawa 2020, pp. 95–112.

[14] Act of 23 April 1964 – Civil Code, O.J. 2020, position 1740 as amended.

[15] It is worth mentioning that B2C relations are, due to the initial weak position of the consumer, subjected both by the EU lawmaker and national legislators to rigorous regulations aimed precisely at protecting the interests of the economically weaker party. Polish consumer law is largely shaped by the EU acquis. Examples include: Council Directive 93/13/EEC of 5 April 1993 on unfair terms in consumer contracts (OJ L 95, 21.04.1993, pp. 29–34); Directive 2005/29/EC of the European Parliament and the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and the Council and Regulation (EC) No 2006/2004 of the European Parliament and the Council (OJ L 149, 11.06.2005, pp. 22–39); Directive 2011/83/EU of the European Parliament and the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and the Council (OJ L 304, 22.11.2011, pp. 64–88); Directive (EU) 2019/2161 of the European Parliament and the Council of 27 November 2019 amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011/83/EU of the European Parliament and the Council as regards the better enforcement and modernisation of Union consumer protection rules (OJ L 328, 18.12.2019, pp. 7–28).

Similarly, at the distribution stage. The manufacturer does not always sell their product directly to the end user. They often use intermediaries with whom they form contractual relations in various ways (e.g., franchising, exclusive sales, commercial representation, *etc.*). However, it cannot be denied that the specificity of robots / AI as the subject of the contract will have a particular impact on the sales contract, the contract for specific work or contract for the provision of services. Everything will largely depend on whether the subject of the contract based on AI will be qualified as a product (specific work) or service.

b) Warranty for defects

If the parties conclude a contract for a specific work, the subject of which is the creation of a specific algorithm or machine / robot using AI, some potential problems related to malfunctions, or the effects of AI could be solved *via* some provisions on a warranty for defects in the work (specific task). The provisions on the warranty for a product defects in the contract of sale apply accordingly to liability for defects in the work. However, the responsibility of the party accepting the order is excluded if the defect in the work has occurred for a reason inherent in the material provided by the ordering party (Civil Code, Art. 638 § 1). Such an exclusion of liability would occur in a situation where the party who orders an algorithm also selects data to 'feed' it. It is, however, necessary to point out that sometimes it can be difficult to identify a defect. Is it a defect because the algorithm is based on inappropriate or insufficient data? Is it a defect to give an unclear definition of activities necessary for the performance of a specific task by the algorithm? It seems so. For example, in the Amazon case mentioned earlier, the algorithm that was used in the recruitment process was 'fed' with correct data, but because social changes were not considered, i.e., the increasing proportion of women applying for programming positions, the resulting candidate selections were found to discriminate against women. Further doubts may also arise in the case of a 'black box', when, for example, the development of the ordered algorithm is performed in accordance with the current programming knowledge and the present state of the art, and the algorithm performs the task entrusted to it, but the final result does not meet expectations of the contracting party.

c) Contractual liability rules

article 471 of the Civil Code provides that a debtor is obliged to remedy any damage arising from non-performance or improper performance of an obligation unless the non-performance or improper performance is due to circumstances for which the debtor is not liable. From the provision of this article, the following conditions for contractual liability arise: a) the existence of a valid obligation; b) non-performance or improper performance of an obligation (breach of an obligation); c) damage to the creditor; d) an adequate causal link between the breach of an obligation and damage to the creditor; e) circumstances for which the debtor is liable (the debtor's fault). The fulfilment of the conditions listed in points from a) to d) rests with the creditor. The last condition is based on the presumption that the non-performance or improper performance of the obligation is due to circumstances for which the debtor is liable. The existence of a valid obligation is the starting point for a contractual liability analysis. In the cases covered by this article, the source of the obligation will be the contract. Its validity will be analysed through the prism of its compliance with the general mandatory provisions and the specific provisions regulating a given contract. It is at this stage that we usually identify parties, a subject and content of the obligation. A proper performance of a contract assumes both performance of an obligation and the satisfaction of the creditor's interest. Any deviation from this model constitutes a breach of the obligation. As indicated earlier, breach of an obligation may take one of two forms. In Polish civil law, non-performance of an obligation means a permanent breach of an obligation. The debtor has not fulfilled the obligation and at the same time there are circumstances excluding its later fulfilment, which means that the interest of the creditor is not satisfied. The reason for such a situation may be, e.g., inability to perform the contract or a withdrawal from it. In the case of improper performance of the obligation, the performance has been fulfilled by the debtor, but there is a discrepancy between the scope of satisfaction provided for in the wording of the obligation and the satisfaction received. We may deal with improper performance of the obligation in the event of a breach of, e.g., the date of performance of the obligation, the place of performance, the quality of performance or the method of performance.[16] The result of non-performance or improper performance of the obligation, which determines a possibility of claiming damages, is the occurrence of damage. At

[16] **K. Zagrobelny**, *Article 471*, in: **E. Gniewek** (red.), *Kodeks cywilny. Komentarz*, C.H. Beck, Warszawa 2011, pp. 863–864; **T. Wiśniewski**, *Article 471*, in: **J. Gudowski** (red.), *Kodeks cywilny. Komentarz. Tom III. Zobowiązania. Część ogólna, wyd. II*, WKP, Warszawa 2018.

the same time, it is worth noting here that under Polish civil law, it is possible to claim compensation only for material damage under a contract. Remedy of material damage covers losses which the aggrieved party has suffered (*damnum emergens*) and benefits which they might have obtained if the damage had not been caused to them (*lucrum cessans*) (Civil Code, Art. 361 § 2). Non-pecuniary damage (pl. *krzywda, szkoda niemajątkowa*) in the Polish contractual regime is not subject to compensation.[17]

The premise of adequate causal link assumes that a person obliged to pay compensation is liable only for normal consequences of the actions or omissions from which the damage arises (Civil Code, Art. 361 § 1).

The last premise of contractual liability in Polish civil law is the debtor's fault. It is an alleged condition for contract liability, so the creditor does not have to prove that the breach of the obligation is the result of circumstances for which the debtor is responsible. The debtor bears the procedural burden to prove that they are not liable for default or improper performance of the contract.[18] Under Art. 472 of the Civil Code, unless a special provision of the law or a legal act provides otherwise, a debtor is liable for failure to exercise due diligence.

In the case of contracts relating to systems based on AI, the fulfilment of conditions consisting of the existence of a valid obligation and damage caused to the creditor as a result of the operation of artificial intelligence, is the least problematic task. The fulfilment of the remaining conditions is more complicated. As any deviation from the model of a fine performance of a contract implies default or improper performance, it is important to ensure the legal qualification of a specific contract such as a contract for specific work or a contract for the

[17] In line with the traditional position of Polish jurisprudence and doctrine, contractual liability does not cover non-pecuniary damage (pl. *krzywda*). However, under the influence of European jurisprudence (including the judgment of the European Court of Justice of March 12, 2002 in case C-168/00 Simone Leitner v. TUI Deutschland GmbH & Co. KG), this principle is slowly being disturbed when it comes to the so-called compensation for wasted holidays in cases of improper performance of contracts in the field of tourism (trips, travel, *etc.*). For example, the Supreme Court in its judgment of March 24, 2011 (case ref. I CSK 372/10) assumed that the liability of the tour operator covers both material and non-material damage. This judgment has been a breach in the Polish jurisprudence to date. It is worth noting, however, that the Supreme Court derived this liability not from the general provisions of the Civil Code regarding contractual liability, but from specific provisions, i.e. the then binding provision of Art. 11a of the Act of August 29, 1997 on tourist services, and dealing with the liability of the tour operator.

[18] **K. Zagrobelny**, *Article 471*..., s. 864–865; **G. Stojek**, *Article 471*, in: **M. Fras**, **M. Habdas** (red.), *Kodeks cywilny. Komentarz. Vol. III. Zobowiązania. Część ogólna (art. 353–534)*, WKP, Warszawa 2018.

provision of services. By a contract for specific work, the party accepting an order undertakes to perform the specified work, and the ordering party undertakes to pay remuneration (Civil Code, art. 627). On the other hand, in the case of contracts for services, i.e., contracts obliging to perform one or more factual activities that are not regulated by other provisions, the provisions on mandate (Civil Code, Art. 750) apply.[19] When looking at the contract for specific work and the contract for services from the perspective of a possibility of activating the contractual liability mechanism, it should be indicated that, in contrast to a contract for services, the party accepting an order bears responsibility for the final result, including its achievement. So, a contract for specific work is one of the contracts creating the obligation of a result.[20] Therefore, when we deal with a contract creating the obligation of the result, we speak of non-performance or improper performance of the obligation when the result (work) finally achieved by the debtor does not correspond, in whole or in part, to the features of the work specified by the parties in the contract. In the case of contracts for the provision of services, we are dealing with a contract creating, as a rule, an obligation to act diligently. The debtor's service does not consist in achieving a certain result, but in undertaking diligent efforts to provide (perform) the service. The debtor is not liable for non-performance of the service if they act with due diligence in performing the actions entrusted to them.[21] In case of doubts as to the legal nature of a given contract, it should first be examined whether the performance subject to the contract has the nature of work. It is assumed that work consists in achieving in the future a predetermined, autonomous (self-existent), objectively achievable and subjectively certain result of human work or creativity, having a material or non-material form, but embodied in a carrier.[22] If all these features are present, and the contract is payable, then it is a contract for specific work. However, in the case of contracts for the performance of factual acts that do not result in the creation of work within the meaning of Article 627 of the Civil Code and which

[19] **P. Zakrzewski**, *Article 750*, in: **M. Fras**, **M. Habdas** (red.), *Kodeks cywilny. Komentarz. Vol. IV. Zobowiązania. Część szczególna (art. 535–764(9))*, WKP, Warszawa 2018.

[20] **W. Wyrzykowski**, *Article 627*, in: **M. Fras**, **M. Habdas** (red.), *Kodeks cywilny. Komentarz. Vol. IV. Zobowiązania. Część szczególna (art. 535–764(9))*, WKP, Warszawa 2018.

[21] Examples of Polish courts' judgments concerning this question: the judgment of the Supreme Court of 19 December 2012, II CSK 219/12, LEX No. 1294221; judgment of the Court of Appeal in Lublin of January 14, 2016, III AUa812/15, LEX No. 1962931; judgment of the Court of Appeal in Łódź of August 5, 2015, III AUa 1512/14, LEX No. 1916635; judgment of the Court of Appeal in Szczecin of 23 April 2015, I ACa 994/14, LEX No. 1782055.

[22] **P. Machnikowski**, *Article 750*, in: **E. Gniewek** (red.), *Kodeks cywilny. Komentarz*, C.H. Beck, Warszawa 2011, p. 1253.

are not covered by a 'specialized'[23] contract for services, various solutions are possible depending on which of the features of work are not present in a specific case.

As contracts for services within the meaning of Article 750 of the Civil Code will be treated as contracts in which the debtor's ought behavior is the performance of factual actions leading in a certain direction, but the debtor does not undertake to achieve a goal of these actions (e.g., care contracts, parenting contracts, treatment contracts, teaching contracts). The same can be said about agreements obliging to perform actions resulting in a result, which, however, has no material form or carrier, and thus does not have an independent and permanent existence (e.g., playing a play, playing a concert). On the other hand, if the debtor's performance consists in achieving a result, the achievement of which is not certain, the contract constitutes an unnamed contract (if it does not violate the limits of contractual freedom[24]), and among the provisions that can be applied by analogy, the provisions on a contract for specific work should be considered in the first place.[25]

Translating the above rules, classic for Polish civil law, into the field of fledgling contracts with the broadly understood artificial intelligence as their subject, we must first note the fact that these AI subjects can take various forms. In the case of a contract for the creation of a robot / tool using AI systems, it is possible to split the object of performance into tangible elements (e.g., elements enabling movement in space, sensors collecting various data, hardware, artificial intelligence carriers, *etc.*) and intangible elements (e.g., software, algorithms, databases, *etc.*). Then, depending on the individual circumstances, the provisions of the contract of work, the contract of sale, lease, rental, *etc.* could be applied to the contract with regard to the performance of material elements. In the case of intangible elements, especially those that have already been created, the application of the provisions governing named contracts may also come into play. However, when the intangible element of the service is 'tailored' (e.g., AI application, algorithm), then the legal qualification of the contract in this respect may pose difficulties. Obviously, the contract for specific work will be the first legal construction that will usually come to mind in relation to this intangible element as well. In fact, however, considering the dispositive (complementary)

[23] E.g., bank account, agency, commission, forwarding, carriage, storage.

[24] Article 353[1] of the Civil Code provides that the contracting parties may arrange a legal relationship at their discretion, if its content or purpose does not contradict the properties (nature) of the relationship, the law or the principles of social coexistence.

[25] **P. Machnikowski**, *Article 750...*, p. 1253.

nature of most of the provisions governing named contracts, the legal qualification of the contract aimed at creating embodied artificial intelligence (an algorithm or an AI application with a carrier) will be indifferent, because most of the parties' obligations (e.g., delivery, warranty for defects, information obligations, payment of the price) will be similar regardless of whether we accept a contract of sale, a contract for specific work or a mixed contract combining a contract of sale with a contract for specific work. In each of the cases mentioned above we have an option to apply the provisions on warranty for defects. However, there is no warranty for defects if an agreement is qualified as a service agreement, as there is no specific result in the form of the work performed. The contractor may only be liable towards the principal on general principles (Civil Code, Article 471 of the Civil Code) in the event of negligent performance of their obligation. Thus, the contractor is liable for failure to exercise due diligence in the performance of the work ordered.

Contracts with AI acting as a 'black box' will be a particularly challenging case. What is extremely important is that informing the contracting party that an algorithm or device / machine using AI will operate as a black box, as well as providing awareness of the 'black box' phenomenon, allows the parties to flexibly determine the content of the obligation, i.e., the specificity of a given algorithm and its effects. This aspect of the contractual relationship can be dealt with by the parties using currently applicable legal provisions. Combining this approach with the so-called agile software development (the so-called agile method) allows for very flexible formulation of contracts and their continual adaptation to the current situation; this can be understood as the development of a given algorithm. The agile software development is most often defined by the 'Manifesto for Agile Software Development',[26] which was formulated in 2001. The discussion on this concept gave rise to many new definitions. From the legal point of view, the most essential element of the indicated software development method is the observation that the recipient's (client's) requirements often evolve during the project. This technique of work assumes quick detection and reaction to changes, thus flexibility. The adoption of variability as the norm entails an evolutionary approach to software development. The current cooperation of the parties is significant here. Constant feedback is to ensure ongoing software alignment in a highly collaborative environment.[27]

[26] Available at: http://agilemanifesto.org/; accessed 22.02.2022.

[27] **M. Laanti**, **J. Similä**, **P. Abrahamsson**, *Definitions of Agile Software Development and Agility*, in: **F. McCaffery**, **R.V. O'Connor**, **R. Messnarz** (eds.), *Systems, Software and Services Process Improvement. 20th European Conference, EuroSPI 2013, Dundalk, Ireland, June 25–27, 2013.*

Although in such cases, everything seems to depend on the agreement of the parties, as in any other contract, serious problems may arise if the parties do not clarify the essential issues related to the operation of artificial intelligence and limit themselves in the contract to duplicating the general code principles governing contractual relations. In turn, regarding the improper performance of the contract deriving from the quality of so-called input data, it can be assumed that this condition will be met if the entered data is incorrect, as in the case of the artificial Amazon recruiter, or if it is badly selected because it does not comply with the standards of knowledge in a given field. Obviously, there is no doubt that software malfunctions (algorithm or system based on AI), judged by the prism of programming knowledge as an error, will be considered as the improper performance of the contract.

Demonstrating an adequate causal link will be particularly difficult, if not impossible, for contracts that target black box machines. This issue is perfectly illustrated on the ground of tort law by AI-based machines that learn by "deep learning'[28] and which may (potentially) be used e.g., in medicine.[29] Now, it is impossible to determine or verify the operation of such a machine, its calculations and conclusions: only the final result, diagnosis and treatment path are displayed. If a patient has suffered from the early implementation of a decision made by the machine, and results turn out to be inaccurate in the light of current knowledge, as determined by human experts, then on what level should a causal link be sought? Can one be found between the behaviour of the AI machine's supplier and the patient's damage in such a situation? Or should we recognize that we are

Proceedings, Springer, Berlin, Heidelberg 2013, pp. 247–258; **P. Abrahamsson et al.**, *Agile software development methods: Review and analysis*, VTT publication 478, Espoo, Finland, 2002, https://www.vttresearch.com/sites/default/files/pdf/publications/2002/P478.pdf; accessed 21.02.2022.

[28] Deep learning is one of the varieties of artificial intelligence, a subcategory of machine learning. It is a technique of creating neural networks, the main task of which is to improve the techniques of voice recognition and natural language processing. Deep learning can be seen as a way to automate predictive analytics. Deep learning is used in various types of big data analytical applications, e.g., those related to natural language processing (NLP), translation of foreign languages, medical diagnostics, stock exchange transactions, network security or image recognition. On this topic, see e.g.: **Y. LeCun**, **Y. Bengio**, **G. Hinton**, *Deep Learning*, Nature 2015/521, pp. 436–444.

[29] E.g., **F. Piccialli et al.**, *A survey on deep learning in medicine: Why, how and when?*, Information Fusion 2021/66, s. 111–137; **M. Kim et al.**, '*Deep Learning in Medical Imaging*, Neurospine 2019/16 (4), s. 657–668, https://doi.org/10.14245/ns.1938396.198; **H. Wang et al.**, *Deep learning in systems medicine*, Briefings in Bioinformatics 2021/22, pp. 1543–1559, https://doi.org/10.1093/bib/bbaa237

already dealing with the autonomous behaviour by the AI machine, i.e., without any human participation, and thus exclude the contractual liability of the supplier / manufacturer? In such a case, who would be responsible?

Therefore, the issue of the debtor's fault is crucial when determining errors in the software, introducing the use of incorrect input data for training the algorithm. However, it seems that when dealing with the human factor and supplier possibility of determining questions as 'who, what, when, where and how data for training the algorithm was introduced/selected', it is relatively easy to rebut the presumption by the debtor (e.g., machine supplier) and in this sense the strategy does not differ much from that one used in traditional disputes concerning classic contracts. Once again, however, contracts involving artificial intelligence in the form of machines operating like black boxes seem problematic. In such cases, could a similar solution be employed to this one used for disputes involving incorrect data or errors in software? In this type of a contract, would it be possible to work out a solution where the operation of a 'human factor' is distinct from that of the 'machine/AI factor'? This division may well affect how the current provisions on contractual liability are applied to the activities of the human factor and to those of AI, creating a new set of AI-specific regulations. It would probably be necessary to capture a moment, act or a decision that could be considered a completely autonomous operation of artificial intelligence, in which man has not been involved in any way. Perhaps such demarcation would be helpful in contracts dealing, in particular, with machines operating on the black box principle.

Before any legal regulations on contractual liability can enter into force, this question can only be regulated on the basis of currently applicable provisions of civil law. The parties are able to regulate their mutual liability in a manner satisfactory to them within the limits of applicable law, or at least to attempt to arrange their contractual relationship in such a way, as ensured by the principle of freedom of contract, as well as those provisions resulting from Articles 472 and 473 of the Civil Code, and the admissibility of modification of contractual liability by the parties provided for in Article 471 of the Civil Code. Poland's legislature allows the parties a fair degree of freedom in the modification of contractual liability, as the parties may freely tighten their contractual liability, even assuming liability for force majeure (Civil Code, Art. 473). The question, however, is whether the debtor (the supplier of the algorithm or the machine acting as a black box) is ready to accept such strict liability. An abstract extension of the debtor's contractual liability would undoubtedly be very risky economically, and it is difficult to imagine that anyone would decide to take

responsibility, colloquially speaking, for everything that an AI machine can do. On the other hand, the transition to an extension of contractual liability consisting in detailed list of harmful events or damage does not solve the problem, either because it is impossible to predict the outcome of calculations and analyses of a self-learning algorithm acting by artificial intelligence: it is certainly impossible to predict all the potential harmful behaviour of AI. The parties to the contract may also mitigate the contractual liability provided for by the provisions of the Civil Code, with the provision that may not exclude liability for wilful misconduct (Civil Code, Art. 473(2)).

4. Artificial Intelligence as a party to the contract

when analysing the impact of artificial intelligence on law, it is impossible to ignore the issue that a robot or AI may be present in civil law transactions as a party to the contract. Contractual liability seems in this field much more problematic. We are searching in vain in various EU documents for the direction which the future regulation of law of contracts, in which one of the parties is artificial intelligence, should take. The main emphasis of works was placed on tort law. There is no doubt, however, that the contractual area of civil law involving AI as a party to a contract will also require in-depth reflection. This issue is closely related to the so-called superintelligence (general and strong AI), over which still many question marks are hanging. Very general references to contractual issues related to AI can be found both in international and EU documents. Reference is made to Article 12 of the United Nations Convention on the Use of Electronic Communications in International Contracts (New York, 2005) and paragraphs 103, 104 and 211 of Explanatory Note prepared by the UNCITRAL secretariat, which indicate that validity of a contract concluded by means of AI with an individual or AI with another AI should be recognised in international transactions.[30] In Resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103 (INL)) (hereinafter: Resolution), the European Parliament noted that technological advances had made today's robots not only able 'to perform activities which used to be typically and exclusively human, but to develop certain autonomous and cognitive features – e.g., the ability to learn from experience and take *quasi*-independent decisions;

[30] United Nations Convention on the Use of Electronic Communications in International Contracts (New York, 23 November 2005), https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/06-57452_ebook.pdf; accessed 27.07.2022.

have made them more and more similar to agents that interact with their environment and are able to alter it significantly'.[31] As a result, the increasing autonomy of robots means that they are no longer (or will no longer) be simple tools in human hands. However, the contractual liability of robots is dealt with very perfunctorily in the Resolution (point AG): '[…] shortcomings of the current legal framework are also apparent in the area of contractual liability insofar as machines designed to choose their counterparts, negotiate contractual terms. Concluding contracts and deciding whether and how to implement them make the traditional rules inapplicable, which highlights a need for new, efficient and up-to-date regulations, which should comply with the technological development and the recent innovations used on the market'.

Regulating the contractual liability of AI will require EU institutions or national legislatures to resolve first an extremely complicated issue, *viz.* the granting of legal personality to artificial intelligence[32] and, consequently, the legal capacity and capacity to enter into legal transactions. In the Resolution, point AC states that autonomous robots do not fit into existing legal categories. This, in turn will require the creation of a new category of entities 'with its own specific features and implications'. This topic will raise many questions: when would artificial intelligence (a robot using AI) acquire legal personality? What features, parameters and powers of artificial intelligence would condition the granting of legal personality?[33] Although the development of criteria for granting legal personality will be an extremely difficult task, considering the variety of forms of artificial intelligence, this direction seems to be correct.[34] A different path of granting legal personality was provided for in the Resolution of the European Parliament given above, which assumes the granting of legal personality to certain forms of artificial intelligence to be linked to the registration obligation. This solution is justly criticized because while such registration can be performed and controlled in the case of artificial intelligence in a physical

[31] European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)), point Z.

[32] E.g., **A. Chłopecki**, *Sztuczna inteligencja – szkice prawnicze i futurologiczne*, C.H. Beck, Warszawa 2018, pp. 7–15; **S. Wojtczak**, *Endowing Artificial Intelligence with legal subjectivity*, AI & Society 2022/37, pp. 205–2013, https://doi.org/10.1007/s00146-021-01147-7

[33] **E. Kurowska-Tober**, **Ł. Czynienik**, **M. Koniarska**, *Aspekty prawne sztucznej inteligencji – zarys problematyki*, Monitor Prawniczy. Prawo Nowych Technologii 2019/21, pp. 85–86.

[34] **P. Księżak**, *Zdolność prawna sztucznej inteligencji (AI)*, in: **W. Robaczyński** (red.), *Czynić postęp w prawie. Księga jubileuszowa dedykowana Profesor Birucie Lewaszkiewicz-Petrykowskiej*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź 2019, p. 71.

form, the registration mechanism will not work for unmaterialized AI operating in a network.[35] Granting legal personality to certain types of artificial intelligence, as well as the very fact of the presence of AI in legal transactions, will certainly entail a need to remodel many current regulations, such as those regarding defects of declarations of intent, good faith or fault,[36] contractual liability. Establishing the premises for this responsibility will be an essential issue. Will AI, which is constantly self-improving, be accused of failure to exercise due diligence? Perhaps in the case of contracts concluded by AI, we should abandon the concept of a duty of diligence altogether, limiting ourselves to the assumption that all contracts concluded with AI are contracts for a specific work, and that AI only incurs obligations of the result (an obligation to achieve a guaranteed result). The adoption of such an assumption would favour the person injured as a result of breach of the concluded contract by AI, because it is easier to demonstrate failure to achieve a specific result than to show failure to exercise due diligence and lack of due diligence. Besides, it cannot be denied that a human has less computing power than a machine using AI, and hence it is reasonable to assume that it should have decided otherwise with certain data at its disposal. Another issue will be to determine whether, and on what terms, artificial intelligence could claim compensation for damage caused to it by a human contractor who violated an existing obligation. These are just a few of the potential problems that may arise from a legal point of view when AI becomes completely detached from human influence and begins to interact with its environment as an independent entity.

Now, in Poland, no legislative actions have been proposed to create a new category of entities based on AI or to grant these entities legal personality. However, it is worth paying attention to quite decisive position expressed in this regard in the Policy for the Development of Artificial Intelligence in Poland for 2019–2027, prepared in 2019 by the Ministry of Digitization and subjected to public consultation. The creators of this policy[37] point out that Poland supports those countries that refuse to grant AI systems the status of citizenship or legal

[35] *Ibidem*.

[36] E.g., **K. Kurosz**, *Zawieranie umów przez sztuczną inteligencję (systemy autonomiczne) a wady oświadczeń woli – wprowadzenie do problemu*, in: **W. Robaczyński** (red.), *Czynić postęp w prawie. Księga jubileuszowa dedykowana Profesor Birucie Lewaszkiewicz-Petrykowskiej*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź 2019, s. 73–98; **P. Księżak**, *Zawieranie umów przez sztuczną inteligencję (AI)*, in: **M. Dumkiewicz**, **K. Kopaczyńska-Pieczniak**, **J. Szczotka** (red.), *Sto lat polskiego prawa handlowego. Księga jubileuszowa dedykowana Profesorowi Andrzejowi Kidybie. Tom II*, WKP, Warszawa 2020, pp. 294–307.

[37] The document was developed by an inter-ministerial analytical and editorial team established based on a memorandum concluded on February 26, 2019 by the Minister of Digitization, the

personality. This concept is contrary to the idea of Human Centric AI and the state of development of AI systems [...]. Moreover, Poland supports a concept of human supremacy over AI systems, and thus personal human responsibility or legal persons where a human is a founder and manager.[38] By Resolution No. 196 of December 28, 2020, the Council of Ministers established the 'Policy for the development of artificial intelligence in Poland from 2020'[39] and upheld the previous assumptions. By defining the legal framework of the Polish AI ecosystem, political actions are to be directed towards defining artificial intelligence and counteracting legal personality of artificial intelligence. The vision of liability was outlined in an enigmatic and slogan manner: liability for damage of AI producers based on diligence, and of AI operators based on risk, as well as a distinction between the liability of end users and that of AI operators.[40] We can only say that maintaining such a position will effectively inhibit legislative initiatives in the indicated area.

5. Conclusions

Due to the complex nature of the issues related to the operation of artificial intelligence, it is only possible to give a brief description of certain problems associated with AI and contractual liability. The market for innovation and artificial intelligence is currently undergoing intensive development, society enjoys a growing fascination with ever newer devices and applications based on AI, and the range of problems addressed by these applications continues to expand, from determining the optimal route to get from point A to point B, to deciding on a method of treating a particular oncological patient. It is therefore

Minister of Entrepreneurship and Technology, the Minister of Science and Higher Education and the Minister of Investment and Development.

38 Policy for the Development of Artificial Intelligence in Poland for 2019–2027 (pl. *Polityka Rozwoju Sztucznej Inteligencji w Polsce na lata 2019–2027 – projekt dla konsultacji społecznych, Warszawa, 20 sierpnia 2019*), https://www.gov.pl/attachment/0aa51cd5-b934-4bcb-8660-bfecb20ea2a9; accessed 21.02.2022.

39 Uchwała nr 196 Rady Ministrów z dnia 28 grudnia 2020 r. w sprawie ustanowienia 'Polityki dla rozwoju sztucznej inteligencji w Polsce od roku 2020', Monitor Polski, January 12, 2021, position 23, https://monitorpolski.gov.pl/M2021000002301.pdf; accessed 18.02.2022.

40 Załącznik do Uchwały nr 196 Rady Ministrów z dnia 28 grudnia 2020 r., Monitor Polski, January 12, 2021, position 23, p. 71, https://monitorpolski.gov.pl/M2021000002301.pdf; accessed 18.02.2022.

only a matter of time before current legal provisions are adapted to accommodate AI, or completely new regulations are created.

Contracts dealing with AI already exist. The creativity of the parties, within the limits of the Polish law and the precision of the developed contractual provisions, will determine a settlement of any disputes arising from them. However, agreements to which artificial intelligence is a party, with legal personality and accumulated assets, still remain in the sphere of science fiction. Even so, in both cases, it is up to the law to respond, as usual *ex post*, to the changing reality.

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SZTUCZNA INTELIGENCJA A ODPOWIEDZIALNOŚĆ KONTRAKTOWA W PRAWIE POLSKIM WYBRANE ZAGADNIENIA

Abstrakt

Przedmiot badań: Rosnąca obecność sztucznej inteligencji (AI) w sferze publicznej oraz wynikające z niej interakcje „robot-człowiek" i „robot-środowisko" z pewnością mogą wpłynąć na zasady odpowiedzialności kontraktowej.

Cel badawczy: W artykule przeanalizowano, w jaki sposób SI i jej komercjalizacja mogą wpłynąć na polskie przepisy prawne regulujące stosunki umowne i odpowiedzialność kontraktową. Celem artykułu jest przedstawienie problematyki wpływu SI na zawieranie i wykonywanie umów w polskim prawie cywilnym, ze szczególnym uwzględnieniem powstającej w tym kontekście odpowiedzialności kontraktowej, a także potencjalnych problemów z nią związanych, nie tylko dla stron umowy, ale także dla prawników, którzy muszą zmierzyć się z zagadką znalezienia rozwiązań prawnych dla postępu technologicznego urzeczywistniającego mechanizmy, które do niedawna traktowane były w kategoriach science-fiction.

Metoda badawcza: Analiza oparta jest na metodzie dogmatyczno-prawnej.

Wyniki: Konieczne jest rozróżnienie sytuacji, w których sztuczna inteligencja jest przedmiotem umowy, od przypadków, w których sztuczna inteligencja jest stroną umowy. W pierwszym przypadku wydaje się, że można w znacznym stopniu wykorzystać obowiązujące przepisy ogólne o odpowiedzialności kontraktowej, a także przepisy regulujące poszczególne umowy. Odpowiedzialność kontraktowa wydaje się jednak znacznie bardziej problematyczna, gdy stroną umowy jest robot. Zagadnienie to jest nierozerwalnie związane z rozwojem inteligentnych robotów (sztucznej inteligencji) i ewentualnym przyznaniem im osobowości prawnej.

Słowa kluczowe: umowy B2B, rękojmia za wady, black box, osobowość prawna.