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Principios de uso de plataformas de mediación basadas en inteligencia artificial para resolver conflictos familiares

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Resumen. El rápido desarrollo de la tecnología permite integrar la inteligencia artificial en la resolución previa de litigios entre cónyuges. La IA, sus ventajas e inconvenientes y la necesidad de minimizar las consecuencias negativas de su uso han sido objeto de intenso debate. El artículo presenta los resultados de un estudio destinado a desarrollar un sistema de principios para el uso de plataformas de mediación impulsadas por IA en la resolución de disputas familiares. El objetivo principal es analizar las ventajas e inconvenientes de dichas plataformas y elaborar principios para el uso eficaz de la IA en la fase previa al juicio. El estudio se basa en el análisis de investigaciones seleccionadas según criterios específicos y examinadas cuidadosamente mediante métodos de analogía y comparación. Los resultados muestran las características clave de las plataformas impulsadas por IA, incluidas ventajas como la rapidez, la eficacia, la accesibilidad y la objetividad. Las desventajas incluyen la violación de la confidencialidad, el riesgo de errores y la falta de flexibilidad y capacidad de respuesta emocional. Los principios para el uso de la IA en la mediación incluyen el respeto de la legalidad, la objetividad, la transparencia, la precisión, la fiabilidad, la protección de datos, el apoyo al aprendizaje y el desarrollo, el control del usuario y el cumplimiento de las normas éticas.

Palabras clave: mediación, tecnologías digitales, inteligencia artificial, principios de utilización de la inteligencia artificial, acuerdos, derechos, responsabilidades.

Principles of using mediation platforms based on artificial intelligence in resolving family disputes

Abstract. The rapid development of technology allows integrating artificial intelligence into the pre-trial settlement of disputes between spouses. AI, its advantages and disadvantages, and the need to minimize the negative consequences of its use have been the subject of intense debate. The article presents the results of a study aimed at developing a system of principles for using AI-powered mediation platforms to resolve family disputes. The main objective is to analyze the advantages and disadvantages of such platforms and to develop principles for the effective use of AI at the pre-trial stage. The study is based on the analysis of research selected according to specific criteria and carefully examined using analogy and comparison methods. The results show the key features of AI-powered platforms, including such advantages as speed, efficiency, accessibility, and objectivity. The disadvantages include a breach of confidentiality, risk of errors, and lack of flexibility and emotional responsiveness. Principles for using AI in mediation include respect for legality, objectivity, transparency, accuracy, reliability, data protection, support for learning and development, user control, and compliance with ethical standards.

Key words: mediation, digital technologies, artificial intelligence, principles of using artificial intelligence, agreements, rights, responsibilities.

INTRODUCTION

Mediation platforms based on artificial intelligence (AI-powered platforms) are becoming a popular tool and promising technological achievement in resolving family disputes. With the help of AI-powered mediation platforms, it is possible to resolve conflicts extrajudicially, reach a compromise, and come to an agreement (Garcia, D., 2017). Mediation can be useful in resolving family disputes as it helps the parties maintain the relationship and find a solution that is acceptable to both of them. Mediation platforms using AI algorithms can optimize the mediation process, reduce costs, and increase the efficiency of all stages of the parties' reconciliation (Han et al., 2021). Such platforms use intelligent chatbots in the form of virtual assistants that interact with spouses, help analyze their problems, and come to an agreement. AI-based virtual assistants provide constant feedback and help the parties reach an agreement without deviating from the chosen course of mediation (Collini et al., 2024).

AI-powered systems are capable of learning, gaining experience, processing natural language, and recognizing patterns. Based on this, they can offer optimal solutions and predict the outcome of agreements between the parties. However, the use of AI-powered platforms in mediation has certain risks. To minimize them, it is necessary to develop principles for using AI in the pre-settlement of family disputes. The topic of AI-driven mediation is controversial. Scholars highlight the main features of the pre-trial consideration of family disputes using AI and offer various options for increasing the efficiency of AI-powered platforms (Bezerra & Almeida, 2020). Therefore, further research in this area is relevant and promising, as well as practice-oriented.

LITERATURE REVIEW

Scholars consider using AI-powered mediation platforms to resolve disputes in family law. According to experts, such platforms can optimize the mediation process and have the following advantages:

– *Speed and efficiency:* using AI allows to speed up the mediation process since algorithms can analyze large arrays of data and quickly provide solutions (Conley Tyler & McPherson, 2006; Nasir et al., 2022);

– *Objectivity:* AI can be used to ensure objectivity and impartiality in the mediation process. Unlike humans, machines are not subject to emotions and personal biases, which makes them ideal arbiters (Jia & Stan, 2021; Martín-Núñez et al., 2023; Rainey & Tidwell, 2017; Leoni et al., 2022).

– *Accessibility:* AI-powered mediation platforms are accessible to all stakeholders, regardless of their location or time of day. This allows for real-time mediation and significantly reduces costs (Sela, 2018; Kumar & Kumar, 2021; Larson, 2010).

However, some scholars claim that the integration of AI-powered platforms into the mediation process for resolving family disputes may raise concerns. The main disadvantages of using AI-powered platforms include:

– *Breach of confidentiality:* when processing personal data and information, a leak may occur. It is necessary to ensure the protection of personal data from unauthorized access and misuse during the mediation process (Nazir et al., 2023; Kafeza, 2021; Zeleznikow, 2021).

– *Lack of flexibility:* some situations may require the mediator to be flexible and able to adapt to changing conditions. However, AI may not have such flexibility, especially if it is programmed for a specific procedure (Cao et al., 2023; Chung, 2019).

– *Risk of errors:* Even though AI is becoming more accurate and reliable, there is still a risk of errors and poor decisions. This can have negative consequences for the parties to the dispute (Garg, 2022; Ermakova & Frolova, 2021; Fabian, 2019).

According to experts, AI is not endowed with qualities that are inherent in humans, such as emotionality (Frey & Osborne, 2013), empathy (Hirblinger, 2022), and the ability to show compassion (Alsamhan, 2023). These qualities in resolving family disputes are important for establishing mutual understanding between the parties. Only people can comprehend non-verbal signals, console, sympathize, and create a comfortable environment for communication. AI cannot react emotionally to ongoing discussions. As a result, the parties may feel coldness and detachment, and such a reaction can aggravate their conflict.

The study examines both the advantages and disadvantages of using AI-powered platforms in resolving family disputes. It is also necessary to propose a system of principles that minimize the risks of using such platforms in mediation.

The main objective of this study is to reveal the advantages and disadvantages of using AI-powered mediation platforms in resolving family disputes and to propose a system of principles for using AI in the pre-settlement of family conflicts.

METHODS

To study using AI in the mediation of family disputes, we analyzed works by scholars that have a significant impact on scientific trends in this area. Our study relied on a desk review and comparative analysis. We selected research that contained the terms "AI in mediation" and "risks of its use".

To collect data, we relied on the PRISMA standards and conducted a bibliographic search in Scopus, Web of Science, Google Scholar, and official legal sites. Materials were selected based on the following criteria:

1) The author has at least three publications on the topics of AI in mediation, AI-powered platforms in mediation, resolving family disputes using AI, and risks of using AI in mediation over the past 10 years;

2) There must be more than 50% of research on legal topics in the total number of publications by the author;

3) The author's profile must indicate that their publications are thematically related to legal sciences;

4) The author's scientific works must have been written between 2014 and 2024.

Using this approach, we initially selected more than 158 publications.

This was followed by filtering that included reading the full texts of the articles to identify the most relevant ones. After careful sampling, 33 papers were selected.

Then we analyzed the selected works and, based on our analysis, formulated the principles of using AI before the judicial settlement of family disputes and minimizing the associated risks.

RESULTS

The first attempts to use AI in dispute resolution were made back in the 1970s (Bains et al., 2001). Today, AI is widely used in legal proceedings. In the UK, AI predicts a possible decision on releasing suspects on bail. In the USA, it predicts the risk of crime-specific reoffending. In China, it analyzes judicial precedents and predicts court decisions. In Western Europe, digital courts use AI (Fanni et al., 2020). Mediation is a new area of AI application in resolving family disputes. Family disputes have their specifics. However, their resolutions are standard and standardized, which allows one to train and use AI-powered platforms to resolve family conflicts at the pre-trial stage. Training is important for AI-powered platforms and includes the following aspects:

1) Using large amounts of data for training: for AI to learn and develop, it needs to use large arrays of data, including legal precedents and agreements concluded between spouses.

2) Using machine learning and deep learning enables AI to automatically extract patterns and dependencies from data, which makes it more accurate and efficient.

3) Integrating with other technologies: AI should be integrated with other technologies such as sensors, robotics, and the Internet of Things to collect and analyze data in real time and improve performance.

4) User feedback plays an important role in the training and development of AI. It allows systems to learn from mistakes and improve their results.

The principle of constant training and development of AI is fundamental. Without constant training, AI-powered platforms cannot analyze new legislative acts and judicial precedents and make appropriate decisions. AI must be trained on unbiased and representative data to avoid systematic errors or biases. This includes collecting data from a variety of sources and considering different opinions (Kirillova et al., 2023).

AI should strive for accurate predictions and correct decisions. It is important to have well-structured and verified data and to use suitable algorithms and data processing methods. Thus, *the principle of accuracy and reliability* must ensure that the rights and interests of the parties to the dispute are respected.

According to o9ur analysis, the use of AI-powered platforms in mediation has several advantages, including *speed and efficiency* (Conley Tyler & McPherson, 2006; Nasir et al., 2022; Birnbaum, 2023) and *objectivity* (Jia & Stan, 2021; Martín-Núñez et al., 2017; Sela, 2018; Kumar & Kumar, 2021; Larson, 2010). Agreeing with this opinion, we highlight objectivity among the main advantages of AI since it eliminates controversial and erroneous decisions. The decisions made by AI are based on objective data and facts rather than subjective opinions or preferences. Therefore, *the principle of objectivity* is fundamental in the use of AI-powered platforms.

Concluding agreements between spouses is sensitive and requires much attention. Thus, it is important to minimize the risk of making erroneous decisions, which is facilitated by the correct configuration of AI-powered platforms. *The principle of quality and safety* plays an important role in the functioning of AI (Rusakova et al., 2021). This principle allows for the effective use of AI in mediation through AI certification and legislative enshrinement of mandatory technological requirements for AI-powered platforms. To ensure that the rights of spouses are respected in resolving family disputes, governments and regulators must develop and implement laws and standards that guarantee data security and privacy and protect user rights.

DISCUSSION

In addition to the advantages of using AI-powered platforms when resolving family disputes, experts identify certain disadvantages, including *the lack of flexibility* (Cao et al., 2023; Chung, 2019), *a breach of confidentiality* (Nazir et al., 2023; Kafeza, 2021; Zeleznikow, 2021), *the risk of errors* (Garg, 2022; Ermakova & Frolova, 2021; Fabian, 2019), and *the lack of emotional reactions* (Frey & Osborne, 2013; Hirblinger, 2022, Alsamhan, 2023). Considering these risks of using AI-powered platforms, using AI in resolving family conflicts should be based on ethical principles, such as respect for human rights, non-discrimination, and fairness (Cole & Blankley, 2006).

To minimize the risk of personal data leakage, it is necessary to follow *the principle of data protection* when using AI in mediation. Information used to train and operate AI must be protected from misuse and leakage.

In addition to these risks, AI-powered mediation platforms should be introduced into the legal field; therefore, the possibility of using AI in mediation processes should be established in legal acts. At the moment, experts note the lack of legislative regulation of AI-powered platforms both at the judicial and pre-trial stages (Zhang et al., 2021). The next principle of using AI-powered platforms in mediation follows from the principle of legality. In legal proceedings, AI must be used in accordance with the law and must not violate citizens' rights and freedoms.

Integrating AI-powered platforms into the mediation process raises new concerns about responsibility and accountability. Traditionally, the mediator is responsible for their actions. However, it is unclear who is responsible for the decisions and recommendations generated by AI (Xu et al., 2023). ***The principle of user control*** allows the mediator, when resolving family disputes, to obtain the data used by AI to make a solution and influence the decisions made by AI.

The practice of mediation using AI-powered platforms should rely ***on the principles of transparency and objectivity***. The principle of transparency in using AI is that users should have access to information about how the system works, what data is used to train it, and what decisions it makes. This helps users understand why the system makes certain decisions and how they can be changed or improved. Transparency can also help reduce mistrust in the system and improve its overall effectiveness.

The principle of objectivity in using AI is the desire to create AI-based systems that are free from bias and can make decisions based on facts and data, without the influence of personal preferences or prejudices. AI-powered platforms must be designed in such a way so that they do not discriminate against users based on their gender, race, age, nationality, religion, sexual orientation, and other factors (Morhat, P.M., 2019). AI should ensure objective and fair agreements between conflicting parties and not bias or manipulate data. Therefore, the principle of objectivity of AI-powered platforms in mediation is fundamental and mandatory.

CONCLUSION

Based on our results, we highlighted the advantages and disadvantages of using AI-powered platforms in mediation. It was proven that the use of such platforms in resolving family disputes should be based on the following principles:

– The principle of legality;

– The principle of objectivity;

– The principle of transparency;

– The principle of accuracy and reliability;

– The principle of user control;

– The principle of data protection;

– The principle of continuous learning and development;

– Ethical principles.

The study is limited by its sample size. We initially used 158 scientific works, including monographs, reports, and statistics. After careful consideration, 33 works were selected that described the advantages and disadvantages of using AI-powered mediation platforms in resolving family disputes. The obtained data allowed us to formulate a system of principles for using AI in resolving conflicts between spouses at the pre-trial stage.

Further research on AI-powered platforms in mediation needs to consider a system of measures that minimize the risks of using AI in resolving family disputes at the pre-trial stage.

Principios de uso de plataformas de mediación basadas en inteligencia artificial
para resolver conflictos familiares

73

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