Attitudes and perceptions regarding algorithmic judicial judgement: barriers to innovation in the judicial system?

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Abstract

This study aims to be a starting point in the process of studying attitudes and perceptions around the use of algorithmic tools in the judicial system and explores possible barriers to innovation. The results reveal significant differences in acceptance between the general population, experts in data analytics and artificial intelligence (AI) and legal professionals, with notable variations in the acceptance of algorithmic tools for judicial analysis. In addition, participants with a legal background showed a negative correlation with acceptance, indicating a more cautious stance towards the integration of such tools in the criminal justice domain. This suggests a cautious and reserved attitude among legal professionals towards the integration of algorithmic tools in the justice system, potentially rooted in concerns regarding objectivity, fairness and the preservation of legal principles in judicial processes. Furthermore, the study reveals that the acceptance of algorithmic tools is influenced by the complexity of the tasks involved in the automation of the criminal justice system. This underlines the importance of considering the level of automation and the degree of human intervention in the use of these tools. In short, this study highlights the importance of having the choice of society and more specifically of legal operators to encourage the adoption and effective implementation of algorithmic tools in the judicial sphere.

Keywords

attitudes; perceptions; algorithmic tools; judicial system; decision-making process

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Actitudes y percepciones relativas al juicio judicial algorítmico: ¿barreras para la innovación en el sistema judicial?

Resumen

Este estudio tiene como objetivo ser un punto de partida en el proceso de estudiar actitudes y percepciones en torno al uso de herramientas algorítmicas en el sistema judicial y explora posibles barreras para la innovación. Los resultados revelan diferencias significativas en la aceptación entre la población general, los expertos en análisis de datos e inteligencia artificial (IA) y los profesionales jurídicos, con variaciones notables en la aceptación de herramientas algorítmicas para el análisis judicial. Además, los participantes con conocimientos legales mostraron una correlación negativa con la aceptación, lo que indica una postura más cautelosa hacia la integración de dichas herramientas en el ámbito de la justicia penal. Esto sugiere una actitud cautelosa y reservada entre los profesionales jurídicos hacia la integración de herramientas algorítmicas en el sistema de justicia, potencialmente arraigada en preocupaciones sobre la objetividad, la equidad y la conservación de los principios jurídicos en los procesos judiciales. Además, el estudio revela que la aceptación de herramientas algorítmicas está influenciada por la complejidad de las tareas implicadas en la automatización del sistema de justicia penal. Esto subraya la importancia de considerar el nivel de automatización y el grado de intervención humana en el uso de estas herramientas. En resumen, este estudio destaca la importancia de tener la elección de la sociedad y, más específicamente, de los operadores legales para fomentar la adopción y la implementación efectiva de herramientas algorítmicas en la esfera judicial.

Palabras clave

actitudes; percepciones; herramientas algorítmicas; sistema judicial; proceso de toma de decisiones

Introduction

The present work revolves around a recurring question that legal practitioners investigating artificial intelligence (hereinafter referred to as AI) and law often encounter, specifically regarding the complex task of determining whether algorithms can replace or provide a real and reasonable alternative to judges. In the current state of the art, it is undeniable that AI offers solutions that could eliminate the need for human involvement, even in the noble function of dispensing justice. However, it is a different matter to ascertain whether this exercise can be equivalent to or even surpass the current standard in terms of guarantees for litigants, such as independence, objectivity, impartiality and so forth.

The main objective of this work is to analyze whether, in the case of accepting the thesis that AI systems can offer a genuine alternative to judges, there are limitations or obstacles to their implementation in the judicial sphere stemming from biased attitudes and perceptions of legal practitioners themselves. If that perception exists in practice, it could condemn us to some sort of *a priori* rejection of the use of technological tools by the judiciary.

The principal hypothesis raised by this study is that judges and magistrates have an attitude towards technology and a different perception compared to laypersons in law. This is due to two intertwined phenomena – specific hypotheses to be tested –: firstly, (1) judges have a high regard for their functions and the way in which they carry out the task of dispensing justice, a task exclusively reserved to the most qualified individuals; secondly, (2) there is resistance to the idea that anyone or anything – be it any machine or especially the so-called robot judges – could replace them.

The formulation of these hypotheses aligns with opinions recently expressed by Spanish judges and magistrates, such as the President of the Second Chamber of the Supreme Court, Manuel Marchena, who categorically rejected such possibility, initiating an intellectual debate with other authors who had previously considered the feasibility of certain AI systems in the judicial sphere, particularly predictive systems for risk assessment and with a purely ancillary function (Simon Castellano, 2021, pp. 218-226). Regarding this, the magistrate asserts forcefully that "replacing jurisdictional decisions with mechanized resolutions would irreparably undermine the guarantees of the accused, especially their right to

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defense" (Marchena Gómez, 2022, p. 56). Such rejection, even when it refers to risk assessment tools with an ancillary function, could be widespread among the judiciary, while the general population might have a different perception and level of confidence in technology and, likewise, in the judiciary itself.

Thus, our analysis starts from a hypothesis formulated in reaction to those statements and opinions expressed by some judges and magistrates about the possibility of machines replacing them in the future. It aims to culminate in a scientific contribution to the debate, not with new opinions or value judgments, but with an empirical study that demonstrates whether these divergent perceptions – between judges and the rest of the citizens – regarding algorithmic adjudication truly exist. This will conclude with a positioning based on the results obtained from the forthcoming study, the details of which will be provided subsequently.

However, this is not the only axis of the study. Taking advantage of the interest in contrasting the existence of divergent perceptions, a granular study is proposed to establish whether, in turn, there are divergent perceptions among different groups – the judiciary and the general population – based on the type of judicial decision – initiating the judicial process, classifying information, obtaining additional information, making the judicial decision, providing reasons or implementing it – and the type of procedure – commercial, criminal, etc. –.

The aim is to go beyond the previous steps already initiated by raising the question "do individuals care about the stage in which technology is used by judges (rather than the overall degree of automation)?" and the results obtained in Barys and Sarel (2023).

In the field of justice, particularly in the domain of judicial decision-making, recent research indicates that individuals generally place greater trust in human judges compared to algorithms (Yalcin *et al.*, 2022), or at the very least, they exhibit skepticism towards a completely automated judicial process (Hermstrüwer & Langenbach, 2022).

Nevertheless, legal scholars appear to hold divergent views regarding the incorporation of technology into Courts (see González Fuster, 2022 and the different studies contai-ned in Castro Toledo, 2022). While certain scholars partially embrace these technologies (see Reiling 2020; Simón Castellano, 2021, 2022 and 2023; Cotino

Hueso, 2022; Miró Llinares, 2022), others adopt a more traditional approach (see Ulenaers 2020; Kim & Phillips, 2021; Caterini, 2022; Cerrillo i Martinez, 2019). The latter group frequently raises concerns about the presence of algorithmic bias (Ponce Solé, 2019; Soriano Arnanz, 2023), transparency issues (Zarsky, 2016; Boix Palop, 2020) or point out procedural fairness concerns (Beriain, 2018). Kim and Phillips additionally contend that "a robot would need to earn its legitimacy as a moral regulator by demonstrating its capacities to make fair decisions" (2021).

1. Objectives and hypothesis

The general objective of this research is to analyze attitudes and acceptance regarding algorithmic judgment. To achieve this objective, several specific objectives have been proposed:

Obj 1. Analyzing and comparing the acceptance of the general population and the acceptance of legal practitioners towards the implementation of algorithmic tools for judicial analysis.

Obj 2. Analyzing the knowledge and attitudes of the population regarding the inclusion of algorithmic tools for judicial analysis.

Obj 3. Analyzing whether the acceptance of the inclusion of algorithmic tools for judicial analysis depends on the level of automation.

Obj 4. Analyzing whether the acceptance of the inclusion of algorithmic tools for judicial analysis depends on the type of task performed by the tool.

The following hypotheses are proposed to achieve the above-mentioned objectives:

H1. Judges and magistrates highly value their functions and believe that AI cannot replace their role in dispensing justice.

H2. The general population's acceptance of the use of algorithmic tools for judicial analysis is higher compared to that of legal professionals.

H3. Tasks that require simpler processing will have higher acceptance among the population.

H4. The inclusion of algorithmic tools will have higher acceptance if the process is supervised by a human factor.

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2. Method

2.1. Instrument

In this study, various sociodemographic variables have been used to obtain a comprehensive understanding of the composition and characteristics of the sample. As a result, data related to the sex, age and educational level of the participants has been collected. Additionally, to fulfill the first objective of the research, information regarding specific areas of knowledge has been requested, including law, data analysis and AI development, as detailed in question 5 of Annex 1.

In addition to the previous sociodemographic variables, the present study has taken into consideration various variables such as the acceptance of the inclusion of algorithmic tools (with varying degrees of independence) in the justice system, the potential inclusion of biases in the development of such tools, the training of professionals in the use of these variables, etc. Regarding acceptance, participants were asked about different areas and applications (see Annex 1).

2.2. Sample

The sample used in this study consisted of 77 participants, of which 51.9% (*N* = 50) were women and 48.1% (*N* = 37) were men. The average age of the participants was 38.8 years (*SD* = 11,89). In terms of education, 84.4% (*N* = 65) of the sample had a university degree. Furthermore, regarding knowledge about the criminal justice system or the process of developing and analyzing automated tools, it was found that 47.4% of the participants have a law degree, 17.1% have practiced law, another 17.1% are legal service consultants, and 7.9% are magistrates or judges. On the other hand, 5.3% have worked or currently work in LegalTech companies, 7.9% are data analysis technicians, 6.6% have been involved in the development of technological solutions, and 10.5% have practical knowledge of AI-based systems. Finally, 34.2% have no knowledge in any of the aforementioned areas.

2.3. Procedure and analysis

The survey used in this study was specifically created by the researchers of the article and was then reviewed by external researchers to ensure its comprehension. For its distribution, a questionnaire was created using the free Google survey system. The questionnaire was distributed through various social networks and was open from 15 May 2023 to 11 June 2023. Furthermore, the survey was specifically sent to over 800 judges through contact with the Judges of the Superior Court of Justice of Madrid, Judges of the National Court and Judge of Instruction No. 2 of Cádiz. It is important to note that the sampling used in this study was non-probabilistic, which means that the sample was not randomly selected.

In terms of the analyses conducted, an initial step involved performing a descriptive analysis of all survey variables. Following this, a correlation analysis was carried out to examine how different variables influenced the dependent variable. Additionally, a bivariate analysis was conducted to investigate whether there were other variables impacting the acceptance process, including select variables measured in this study. Correlations were used to scrutinize the relationships between these variables, taking into consideration their respective types. Initially, we validated the assumptions of homogeneity, normality and independence. While the assumption of normality was met in the present sample, homogeneity was not. Consequently, subsequent analysis of the variables was executed using non-parametric tests. Given the non-compliance with the aforementioned assumptions and considering the sample size, the Kendall correlation test (Kendall's tau) was employed.

3. Results

3.1. Knowledge and characteristics of automated algorithmic tools

The respondents were asked a series of general questions regarding their knowledge and perceptions of automated algorithmic tools in the judicial domain. The following are the findings:

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Table 1. Descriptive analyses of the characteristics and knowledge of automated algorithmic tools

	Strongly disagree		Disagree		Neither agree nor disagree		Agree		Strongly agree		M	DT
	N	%	N	%	N	%	N	%	N	%		
Are you familiar with the use of automated algorithmic tools in the justice system?	31	40.3	13	16.9	21	27.3	8	10.4	4	5.2	2.23	1.234
Do you believe that judges and lawyers should receive training on the potential use of automated algorithmic tools in the justice system?	1	1.3	0	0	13	16.9	25	32.5	38	49.4	4.29	0.841
Do you think that the use of automated algorithmic tools in the justice system may perpetuate existing biases and discrimination?	7	9.1	13	16.9	25	32.5	21	27.3	11	14.3	3.21	1.162
Do you think that the use of such tools in the justice system could be susceptible to manipulation or sabotage?	0	0	12	15.6	20	26.0	25	32.5	20	26.0	3.69	1.029
Do you think that the use of automated algorithmic tools in the justice system could be a factor of positive change in the way laws are applied in the future?	6	7.8	10	13.0	16	20.8	28	36.4	17	22.1	3.52	1.199

Source: own creation

It is noteworthy that 49.4% of the respondents strongly agree with the statement that judges and lawyers should receive training on the potential use of automated algorithmic tools in the justice system. Additionally, 31% indicate that they are not familiar with the use of automated algorithmic tools in the judicial system. Specifically, among respondents with knowledge in judicial matters, 34.1% of them are not familiar with this type of system. Furthermore, it is important to highlight that over half (52.5%) agree or strongly agree with the statement that automated algorithmic tools could be susceptible to manipulation or sabotage. Regarding the possibility that the use of automated algorithmic tools in the judicial system can perpetuate biases and discrimination, 41.3% agree or strongly agree. Finally, 58.5% of the participants agree or strongly agree with the statement that the use of these tools could be a positive catalyst for change in the way laws are applied in the future. If we focus on the judicial sample again, 52.3% also agree with this statement.

Regarding the hypotheses proposed, we can affirm that tasks that are more routine or, a priori, simpler, are more accepted by the general population to be replaced or assisted by automated algorithmic tools (H3). Moreover, as mentioned, when these tools are used as an accessory method in the process rather than the sole method their acceptance is increased, which confirms hypothesis 4.

3.2. Acceptability in the criminal law field

Additionally, we have analyzed the degree of acceptance of the inclusion of automated algorithmic tools based on the type of task performed by the machine and the level of inclusion (sole use of the tool or as assistance to the operator). The results are as follows:

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Figure 1. Use of automated algorithmic tools as the only method in the process or with a relevant and decisive role. Penal
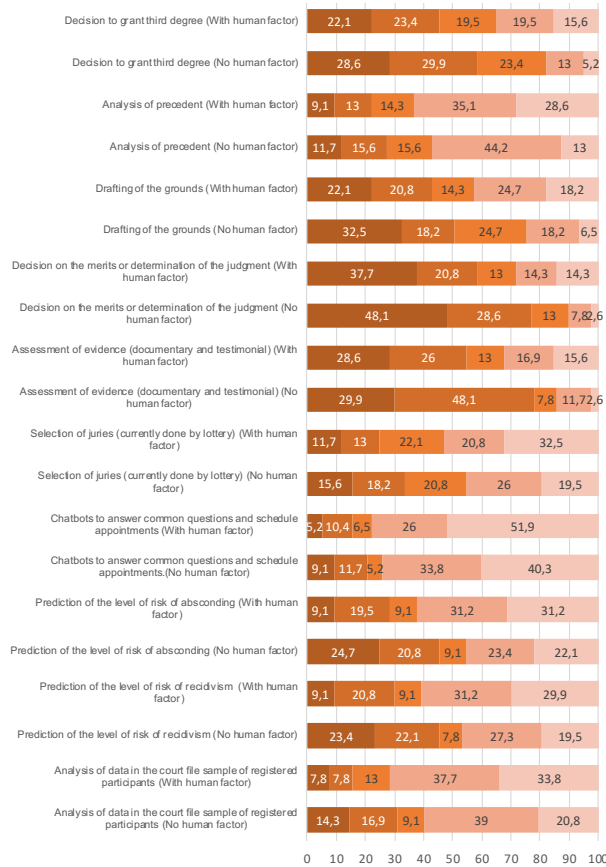
Source: own creation

As observed, certain tasks such as precedent analysis (57.2%), the use of chatbots (74.1%) or the analysis of data in the judicial record (59.8%) have a higher level of acceptance. Furthermore, when the tools are used as a complement, the acceptance rate increases – precedent analysis (63.7%), use of chatbots (77.9%), or analysis of data in the judicial record (59.8%) –.

On the other hand, tasks that have lower acceptance are making decisions on the merits or determining the verdict (76.7%), and deciding on parole (58.5%), which show an increase in acceptance when used as an accompaniment to the process.

3.3. Acceptability in other areas

In the case of studying other areas of law, we can observe similar results to those obtained for the criminal justice field (Figure 2).

It can be observed that certain tasks such as "adoption of court decisions in the field of labor law" (66.3%),

"making a court decision in civil law proceedings" (77.8%) or "drafting of the grounds" (52%) have a high level of rejection when the tool is used without human control. However, when the tools are used as a complement, the rejection rate decreases significantly ("adoption of court decisions in the field of labor law" (48.1%), "making a court decision in civil law proceedings" (39%) or "drafting of the grounds" (13.2%).

Figure 2. Use of automated algorithmic tools to assist the operator in the process method. Other ambits
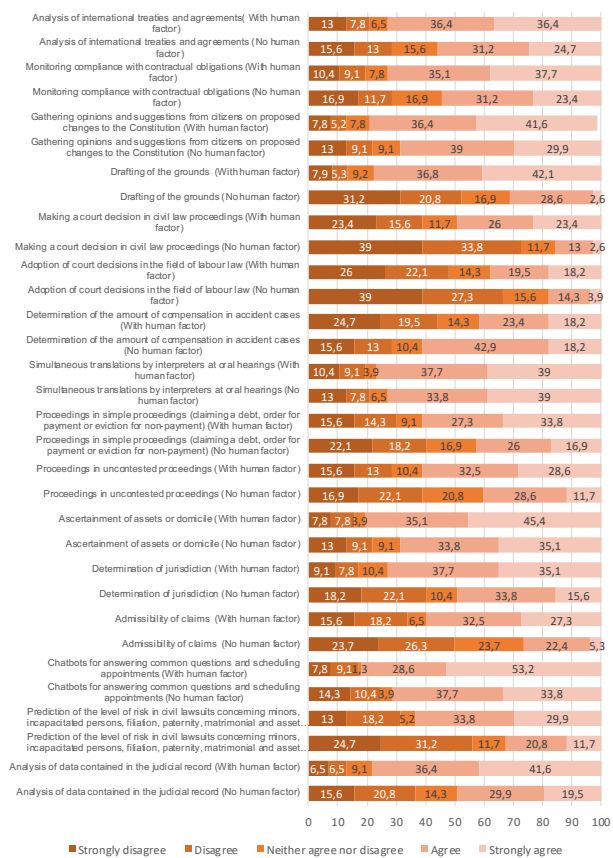
Source: own creation

On the other hand, the tasks that show higher acceptance are "simultaneous translations by interpreters at oral hearings" (72.9%), "ascertainment of assets or domicile" (68.9%), and "chatbots for answering common questions and scheduling appointments" (71.5%), which also show an increase in acceptance when used. In this regard, it is noteworthy that tasks such as the use of "chatbots for answering common questions and scheduling appointments" achieve an acceptance rate of 81.8%, or the previously mentioned task of "ascertainment of assets or domicile" with 80.5%.

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3.3. Comparison between legal practitioners and the general population

To compare the different groups, the variables related to the acceptance of the inclusion of algorithmic tools were recoded into a global variable (using the mean of all tasks as data). Thus, for the intersection of the inclusion of tools in the criminal field without the inclusion of the human factor, the following tables were obtained:

Table 2. Penal without human factor* knowledge

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
No knowledge	14.8%	29.6%	40.74%	11.1%	3.7%
Knowledge of AI and data analytics	0%	0%	16.7%	83.3%	0%
Legal knowledge	25%	36.4%	38.6%	0%	0%
				Chi-square	.002

Source: own creation

Table 3. Penal with human factor* knowledge

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
No knowledge	11.1%	22.3%	40.7%	11.1%	14.8%
Knowledge of AI and data analytics	0%	0%	50%	50%	0%
Legal knowledge	13.6%	34.1%	27.3%	15.9%	9.1%
				Chi-square	.011

Source: own creation

Table 4. Other areas without human factor* knowledge

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
No knowledge	11.1%	11.1%	63%	11.1%	3.7%
Knowledge of AI and data analytics	0%	0%	33.3%	66.7%	0%
Legal knowledge	25%	25%	34.1%	15.9%	0%
				Chi-square	.051

Source: own creation

Table 5. Other areas with human factor* knowledge

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
No knowledge	14.8%	7.4%	37%	25.9%	14.8%
Knowledge of AI and data analytics	0%	0%	0%		
Legal knowledge	11.4%	22.7%	22.7%	31.8%	11.4%
				Chi-square	.126

Source: own creation. *Correlation is significant at the 0.05 level (bilateral)

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The analysis of the data presented in Tables 2, 3 and 4 revealed the presence of statistically significant differences between the groups compared. These results allow us to confidently state that there are significant differences depending on whether participants have prior knowledge in law, AI development or data analysis. However, for Table 5, we cannot establish significant differences between the groups.

Table 6. Correlations between acceptance variables and study variables

	Acceptance in the criminal field without human factor	Acceptance in the criminal justice field with human factor	Acceptance in other areas without human factor	Acceptance in other areas with human factor
Age	-.094	-.044	-.096	-.056
No knowledge	-.122	.034	.111	-.018
Knowledge of AI and DA	.323**	.241*	.286*	.226*
Legal knowledge	-.292**	-.163	-.262*	-.105

Source: own creation. **Correlation is significant at the 0.01 level (bilateral); *Correlation is significant at the 0.05 level (bilateral)

As observed in the table, there is no correlation between age and the variables "acceptance in the criminal field without the human factor", "acceptance in the criminal justice field with human factor", "acceptance in other areas without human factor" and "acceptance in other areas with human factor". Similarly, there is no correlation between lack of knowledge and acceptance variables. However, there is a positive and statistically significant correlation between having knowledge in data analysis and AI and the acceptance of the inclusion of automated algorithmic tools. This means that when there is knowledge in these fields, there is a higher acceptance of their inclusion. On the other hand, a correlation is also observed between having legal studies and acceptance. In this case, the relationship is negative and significant but only for the variables "acceptance in the criminal field without the human factor" and "acceptance in other areas without human factor". This implies that if you have legal knowledge, you are less in favor of the inclusion of automated algorithmic tools in the criminal justice system.

Relating these findings to the hypotheses, we can determine that hypotheses 1 and 2 are supported, as judges, magistrates and legal professionals are more opposed to replacing judicial function with tools compared to the general population. Additionally, when the inclusion of such tools is presented as assistance to the process, there is a more positive attitude towards accepting the inclusion.

In addition, and as mentioned above in the analysis section, a correlation between different variables was performed. In this case, due to the non-compliance with the assumptions, Kendall's correlation test (Kendall's tau) was used. The results of these correlations are presented in Table 6.

4. Discussion and conclusions

Considering the empirical research and analysis conducted in this pilot study, we have reached some conclusions that address the central question presented in the introduction. Our investigation delved into the intricate relationship between AI and the legal system, with a specific focus on whether algorithms can serve as a viable substitute for human judges. Throughout this study, we have acknowledged the undeniable advancements AI brings to the table, offering potential solutions that could potentially eliminate the need for human intervention in the administration of justice. However, we have also scrutinized the limitations and barriers that arise from biased attitudes and perceptions when considering the implementation of AI systems in the judicial domain.

In terms of the research, as mentioned earlier, it is important to highlight that this is a preliminary approach to the problem through a pilot study. Similarly, due to the high-speed development of algorithmic tools and the constant changes in the research field, it was deemed valuable to present the results despite being aware of the limitations imposed by the small sample size. Precisely, the nature of a pilot study allows for the evaluation of the viability of the methodology used, data collection and analysis, providing an initial understanding of the problem and laying a solid foundation for broader and more comprehensive research in the future.

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The present research is subject to bias due to the small sample size obtained for this pilot study. This implies that the generalizability of the results to a larger population may be affected, as a small sample may not be fully representative of the target population. Additionally, it is important to consider that with a small sample, there is a higher risk of bias and variability in the results. Furthermore, the findings obtained in this sample may not be fully applicable to other populations with different characteristics. Therefore, although these are preliminary indications and a pilot study, it is necessary to interpret the results with caution.

In addition to the issue related to the sample size, it is important to highlight the limited collaboration encountered by the justice system in this study. Out of a total of more than 800 magistrates who were provided with the surveyand confirmed their participation, only 6 of them completed it. This study aims to contribute to the knowledge and understanding of the use of algorithmic tools in the legal field, so it is not understandable why current and future users of such tools are not willing to participate in studies of this type or similar ones.

Unfortunately, due to the limitations in our sample size and the reluctance of judges to participate in this type of survey, we were unable to adequately test the hypothesis that judges and magistrates highly value their functions and believe that AI cannot replace their role in dispensing justice. The small number of judges included in our study hindered our ability to obtain comprehensive and representative data on their attitudes and perceptions. It is worth noting that the participation of judges in research related to AI and its impact on the judicial system is often met with reticence and limitations. This highlights the need for further research and efforts to overcome these barriers in order to obtain a more nuanced understanding of the perspectives of judges in relation to AI in the field of justice.

Regarding the stated objectives, the findings suggest significant differences in acceptance between the general population and legal practitioners. Significant differences were found between the groups regarding the acceptance of algorithmic tools in judicial analysis. Furthermore, the results have shown a positive relationship between knowledge and previous experience in data analysis and AI and the acceptance of algorithmic tools in the judicial system. Participants with knowledge in these areas demonstrated a greater willingness to adopt the inclusion of algorithmic tools in the legal domain. Conversely, participants with legal education exhibited a negative correlation with the acceptance of algorithmic tools. This suggests that legal professionals adopt a more cautious and reserved stance towards the integration of these tools in the field of criminal justice. This indicates the presence of resistance or skepticism among legal professionals towards the adoption of these tools, aligning with existing literature (Simón Castellano, 2021, pp. 218-226) that shows conservative standpoints are not solely based on concerns about algorithmic bias, lack of transparency or procedural fairness issues.[1]

This more cautious and reserved attitude of legal professionals towards the integration of algorithmic tools in the justice system may be based on fundamental concerns about objectivity, impartiality and the preservation of legal principles in judicial processes. The results obtained in Table 1 support this assertion, as they reveal a widespread belief that algorithmic tools may still perpetuate existing biases and discriminations or be susceptible to manipulation or sabotage.

Additionally, the study also reveals that the acceptance of algorithmic tools is influenced by the level of complexity of the tasks involved in the automation of the criminal justice system. Simpler tasks have received higher acceptance, regardless of participants' legal knowledge or education. This highlights the importance of considering the

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1. By way of example, the main obstacles identified by the President of the Second Chamber of the Supreme Court, Manuel Marchena, can be summarized as follows: **1)** Presumption of guilt and concerns about the potential inversion of the presumption of innocence. If an algorithm statistically labels a person as a social threat, it may lead to the burden of proving innocence shifting to the individual, challenging the fundamental presumption of innocence; **2)** Second instance challenge and lack of a clear path for citizens who disagree with a judicial decision made by an algorithm that operates on statistical correctness; **3)** Interpretability and expertise, plus even if the code behind the decision-making process is provided, understanding and interpreting it may require specialized knowledge, potentially placing an additional burden on litigants to hire experts for interpretation; **4)** Lack of reasoning, pointing out that algorithms can decide based on data and patterns but lack the ability to reason, so they cannot provide the human understanding, context and nuanced judgment that a human judge can; **5)** Impartiality of programmers, if algorithms are influenced by the biases or perspectives of the programmers, it could introduce inherent biases into the decision-making process. See Marchena Gómez, 2022.

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level of automation and the degree of human intervention in the use of these tools.

Overall, this study provides an initial insight into attitudes and perceptions regarding the use of algorithmic tools in the justice system, specifically in the context of judicial judgment. The findings alert us to potential barriers that may hinder the adoption and implementation of these tools in the judicial system. The study has revealed significant differences in the acceptance of algorithmic tools. This disparity suggests the presence of some resistance or skepticism among legal professionals towards the adoption of these tools in their judicial practices. It is essential to address these concerns and understand the reasons behind them to foster greater acceptance and adoption of these tools in the justice system.

In summary, this study serves as an important starting point for understanding attitudes and perceptions regarding the use of algorithmic tools in the justice system. It is crucial to emphasize the need for dialogue among legal professionals, policymakers and the general population. This dialogue will enable addressing existing concerns, ensuring transparency in the use of these tools and promoting informed decision-making in the context of the justice system.

Aknowledgments

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Annex 1. Survey

Actitudes y percepciones en torno al juicio jurisdiccional algorítmico

El uso de algoritmos en el sistema judicial ha generado un intenso debate. Mientras algunos defienden que la automatización de ciertos procesos judiciales puede ser beneficiosa, otros temen que los algoritmos puedan generar resultados sesgados y agravar las desigualdades. Siendo así, nos interesa conocer su opinión respecto a la inclusión de estas herramientas en el ámbito judicial.

La encuesta es totalmente anónima, por lo que no se recogerá ningún dato que pueda identificarte. En cualquier caso, la información que se obtenga se tratará de acuerdo con el Reglamento General de Protección de Datos, así como a la Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales.

Si tienes alguna pregunta sobre este proyecto de investigación, puedes consultar en cualquier momento a la investigadora Sandra Pérez, a través del e-mail s.perezd@crimina.es. Si respondes a las cuestiones que se te proponen, entendemos que has comprendido el objetivo del presente estudio, que has podido preguntar y aclarar las dudas que se te hubieran planteado inicialmente y que aceptas participar. Los investigadores de este proyecto te agradecemos encarecidamente tu valiosa participación.

No olvides que se trata de una encuesta TOTALMENTE ANÓNIMA que no te ocupará más de 10 MINUTOS y que nos aportará datos de gran interés.

ATENCIÓN: Si estás realizando esta encuesta desde un móvil no olvides desplazar el cursor hacia la derecha en cada pregunta para ver todas las posibilidades de respuesta.

☐ He leído y acepto el tratamiento de mis datos personales para la investigación académica que se ha descrito

Escriba todo junto la INICIAL del nombre de su madre, seguido de la INICIAL del lugar en el que nació, y finalmente su estatura en CENTÍMETROS.

1. Sexo

☐ Hombre   ☐ Mujer

2. Edad

3. Nivel máximo de estudios*

☐ Primaria   ☐ Secundaria   ☐ Bachillerato/FP   ☐ Universitarios

5. Tiene formación en alguno de los siguientes ámbitos: (Puede marcar más de un ámbito)

☐ Licenciatura o Grado en Derecho
☐ Ejercicio práctico de la abogacía
☐ Magistrado/a o juez/a
☐ Consultor/a o asesor/a sector legal
☐ He trabajado o trabajo en empresas legal tech
☐ Técnico/a en análisis de datos
☐ He participado o participo en el desarrollo de soluciones tecnológicas
☐ Conocimiento práctico de sistemas que apliquen IA
☐ Ninguno de los anteriores

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Herramientas algorítmicas automatizadas

Las herramientas algorítmicas automatizadas son programas de software que utilizan algoritmos para realizar tareas específicas sin la necesidad de intervención humana. Estas herramientas están estrechamente conectadas con la inteligencia artificial (IA), ya que la IA hace referencia al desarrollo de sistemas y algoritmos que pueden realizar tareas que normalmente requerirían la inteligencia humana, como el aprendizaje, la toma de decisiones y el reconocimiento de patrones. Las herramientas algorítmicas automatizadas se utilizan en muchos campos de la IA, como el aprendizaje automático, la minería de datos y la automatización de procesos. A continuación, se le realizará una serie de preguntas generales acerca del conocimiento y de las características de las herramientas algorítmicas automatizadas en el ámbito judicial.

6. ¿Está usted familiarizado con el uso de las herramientas algorítmicas automatizadas en el sistema de justicia? *
☐ No estoy nada familiarizado
    ☐ 1
    ☐ 2
    ☐ 3
    ☐ 4
    ☐ 5
☐ Estoy totalmente familiarizado

7. ¿Cree que los jueces y los abogados deben recibir capacitación sobre el posible uso de herramientas algorítmicas automatizadas en el sistema de justicia?
No deberían recibir ningún tipo de formación
    ☐ 1
    ☐ 2
    ☐ 3
    ☐ 4
    ☐ 5
Es totalmente imprescindible que reciban formación

8. ¿Cree que el uso de las herramientas algorítmicas automatizadas en el sistema de justicia puede perpetuar sesgos y discriminación existentes?
☐ Reduciría completamente los sesgos y la discriminación
    ☐ 1
    ☐ 2
    ☐ 3
    ☐ 4
    ☐ 5
☐ Perpetuaría completamente los sesgos y la discriminación

9. ¿Cree que el uso de dichas herramientas en el sistema de justicia podría ser susceptible a manipulación o sabotaje? *
☐ Absolutamente nada susceptible
    ☐ 1
    ☐ 2
    ☐ 3
    ☐ 4
    ☐ 5
☐ Totalmente susceptible

10. ¿Cree que el uso de las herramientas algorítmicas automatizadas en el sistema de justicia podría ser un factor de cambio positivo en la forma en que se aplican las leyes en el futuro?
☐ No ofrece ningún tipo de cambio positivo
    ☐ 1
    ☐ 2
    ☐ 3
    ☐ 4
    ☐ 5
☐ Es la clave del cambio positivo

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Aceptación de uso de herramientas algorítmicas automatizadas

En la actualidad, el desarrollo de la inteligencia artificial (IA) y de las herramientas algorítmicas automatizadas en el sistema de justicia se encuentra en constante actualización y desarrollo. Existen algunos desarrollos tecnológicos que pueden ser útiles y ayudar a jueces y magistrados a realizar las funciones propias de su cargo. A continuación, nos gustaría conocer su opinión acerca de la inclusión dichas herramientas en diferentes ámbitos del sistema judicial.

Ámbito penal

Cuando hablamos de ámbito penal hacemos referencia a una rama del Derecho que trata de resolver o dar respuesta a los casos más graves, en los que es de aplicación el Código penal y las leyes de procedimiento de esa misma jurisdicción. Nos limitaremos, en este ámbito, a proponer posibles usos o empleos de los sistemas de inteligencia artificial.

11. En cuál de los siguientes casos que se le expone estaría de acuerdo en que se utilicen las herramientas algorítmicas automatizadas como único método del proceso o con una función relevante y decisiva (sin intervención humana).

	Totalmente en desacuerdo	En desacuerdo	Ni en acuerdo ni en desacuerdo	De acuerdo	Totalmente de acuerdo
Análisis de datos que obran en el expediente judicial	☐	☐	☐	☐	☐
Predicción del nivel de riesgo de reincidencia	☐	☐	☐	☐	☐
Predicción del nivel de riesgo de fuga	☐	☐	☐	☐	☐
Chatbots para responder preguntas comunes y programar citas	☐	☐	☐	☐	☐
Selección de jurados (actualmente se realiza mediante sorteo)	☐	☐	☐	☐	☐
Valoración de la prueba (documental y testifical)	☐	☐	☐	☐	☐
Decisión sobre el fondo o determinación del fallo (conclusión final de un caso legal que resuelve la cuestión principal en disputa)	☐	☐	☐	☐	☐
Redacción de los fundamentos (explicación de las razones por las cuales se ha tomado una determinada decisión)	☐	☐	☐	☐	☐
Análisis del precedente (casos análogos o similares)	☐	☐	☐	☐	☐
Decisión de concesión del tercer grado (acceso a la libertad por parte una vez cumplida una parte de la condena con buen comportamiento)	☐	☐	☐	☐	☐

Uso como función accesoria.

12. En cuál de los siguientes casos que se le expone estaría de acuerdo en que se utilicen las herramientas algorítmicas automatizadas como único método del proceso o con una función relevante y decisiva (función accesoria).

Se incluyó una tabla idéntica a la de la pregunta 11.

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Otros ámbitos del derecho

A continuación, se muestran una serie de usos de las herramientas algorítmicas automatizadas en otros ámbitos del derecho como por ejemplo: Derecho civil, derecho laboral, derecho mercantil o comercial, derecho administrativo, derecho constitucional u otros.

13. En cuál de los siguientes casos que se le expone estaría de acuerdo en que se utilicen las herramientas algorítmicas automatizadas como único método del proceso o con una función relevante y decisiva (sin intervención humana).

	Totalmente en desacuerdo	En desacuerdo	Ni en acuerdo ni en desacuerdo	De acuerdo	Totalmente de acuerdo
Análisis de datos que obran en el expediente judicial	☐	☐	☐	☐	☐
Predicción del nivel de riesgo en juicios civiles relativos a menores, incapaces, filiación, paternidad y de índole matrimonial o para preservar el patrimonio"	☐	☐	☐	☐	☐
Chatbots para responder preguntas comunes y programar citas	☐	☐	☐	☐	☐
Admisión a trámite de demandas (decidir si una demanda presentada por una parte debe ser aceptada y procesada)	☐	☐	☐	☐	☐
Determinación de la competencia judicial	☐	☐	☐	☐	☐
Averiguación del patrimonio o del domicilio	☐	☐	☐	☐	☐
Trámites en procesos sin oposición (proceso legal en el que una de las partes no presenta una respuesta o escrito contra la demanda)	☐	☐	☐	☐	☐
Trámites en procesos simples (por ejemplo: reclamación de una deuda o cantidad de dinero, monitorio o deshaucio por falta de pago)	☐	☐	☐	☐	☐
Traducciones simultaneas de intérpretes en vistas orales	☐	☐	☐	☐	☐
Determinación de la cuantía de la indemnización en accidentes	☐	☐	☐	☐	☐
Adopción de la decisión judicial en el ámbito laboral (contratos de trabajo)	☐	☐	☐	☐	☐
Adopción de la decisión judicial en la jurisdicción civil (disputas en temas como propiedad, contratos, familia y herencias)	☐	☐	☐	☐	☐
Redacción de los fundamentos (razones por las cuales se ha tomado una determinada decisión)	☐	☐	☐	☐	☐
Recopilar opiniones y sugerencias de los ciudadanos sobre cambios propuestos a la Constitución	☐	☐	☐	☐	☐

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Monitorear el cumplimiento de las obligaciones contractuales (realizar un seguimiento de los términos y condiciones establecidos en un contrato para asegurarse de que se estén cumpliendo satisfactoriamente)	☐	☐	☐	☐	☐
Análisis de tratados y acuerdos internacionales (revisión del texto del acuerdo y la identificación de los compromisos específicos)	☐	☐	☐	☐	☐

Uso como función accesoria.

14. En cuál de los siguientes casos que se le expone estaría de acuerdo en que se utilicen las herramientas algorítmicas automatizadas como ayuda al operador (por ejemplo: abogados, jueces, fiscales, notarios, registradores, mediadores, etc) en el método del proceso (función accesoria).

Se incluyó una tabla idéntica a la de la pregunta 13.

Gracias por su participación

15. Rellene el siguiente espacio si desea hacer algún comentario o recomendación.

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