http://dx.doi.org/10.18623/rvd.v22.n2.3139

ARTIFICIAL INTELLIGENCE AND TRANSHUMANISM: ETHICAL CHALLENGES IN HUMAN ENHANCEMENT

INTELIGÊNCIA ARTIFICIAL E TRANSUMANISMO: DESAFIOS ÉTICOS NO APRIMORAMENTO HUMANO

Article received on: 6/23/2025
Article accepted on: 9/29/2025

Eliana del Rocío Rodríguez Salcedo*
*PhD. Docente investigadora DIDE, Facultad de Jurisprudencia y Ciencias Sociales. Universidad Técnica de Ambato, Ambato, Ecuador
Orcid: https://orcid.org/0000-0001-5062-0441
edr.rodriguez@uta.edu.ec

Carlos Alberto Martínez Bonilla*
*PhD. Docente investigador DIDE, Facultad de Jurisprudencia y Ciencias Sociales. Universidad Técnica de Ambato, Ambato, Ecuador
Orcid: https://orcid.org/0000-0003-0066-8361
carlosamartinezb@uta.edu.ec

Lorena del Carmen Chiliquinga Vejar*
*Ing. Mg. Docente investigadora, Facultad de Jurisprudencia y Ciencias Sociales, Carrera de Trabajo Social. Universidad Técnica de Ambato, Ambato, Ecuador
Orcid: https://orcid.org/0000-0002-8896-1951
ldc.chiliquinga@uta.edu.ec

Pamela Verónica Armas Freire*
*Ing. Docente investigadora, Facultad de Ciencias Administrativas, carrera de Marketing Digital. Universidad Técnica de Ambato, Ambato, Ecuador
Orcid: https://orcid.org/0009-0004-0996-8795
pv.armas@uta.edu.ec

The authors declare that there is no conflict of interest

Abstract
Artificial intelligence (AI) has burst into the legal field as a tool with great potential to transform legal processes, posing benefits, risks and regulatory challenges. This study aimed to analyze the sociodemographic, professional and training factors that influence the adoption and perception of AI among legal professionals. To this end, a quantitative, non-experimental, cross-sectional and correlational-explanatory design was developed, with a sample of 300 participants. Bivariate tests and multivariate models (logistic and linear regression) were applied to identify predictors of AI use and perceptions related to benefits, risks, regulation, and transhumanism. The results showed that 58% of the participants used AI tools in their professional work, with ChatGPT being the most used. Age behaved as a negative predictor of use, while work experience and AI training had positive effects. Likewise, it was evidenced that

Resumo
A inteligência artificial (IA) tem se destacado no campo jurídico como uma ferramenta com grande potencial para transformar processos jurídicos, apresentando benefícios, riscos e desafios regulatórios. Este estudo teve como objetivo analisar os fatores sociodemográficos, profissionais e de formação que influenciam a adoção e a percepção da IA entre profissionais do direito. Para tanto, foi desenvolvido um delineamento quantitativo, não experimental, transversal e correlacional-explicativo, com uma amostra de 300 participantes. Testes bivariados e modelos multivariados (regressão logística e linear) foram aplicados para identificar preditores do uso de IA e percepções relacionadas a benefícios, riscos, regulamentação e transumanismo. Os resultados mostraram que 58% dos participantes utilizavam ferramentas de IA em sua atuação profissional, sendo o ChatGPT o mais utilizado. A idade se

the female gender presented a higher adoption than the male gender. In terms of perceptions, users reported greater benefits and lower risk perception, while older and more experienced professionals showed greater skepticism and a stronger demand for regulation. An additional finding revealed that women and participants with AI training were more open to transhumanist debate. These results allow us to link theoretical debates with legal practice, highlighting the importance of promoting training programs, adequate regulatory frameworks and interdisciplinary reflection to consolidate an inclusive, efficient and ethically sustainable digital legal ecosystem.

Keywords: Artificial Intelligence. Law. Technological Adoption. Regulation. Risks. Benefits. Transhumanism. Training.

comportou como um preditor negativo do uso, enquanto a experiência profissional e o treinamento em IA tiveram efeitos positivos. Da mesma forma, evidenciou-se que o gênero feminino apresentou maior adoção do que o gênero masculino. Em termos de percepções, os usuários relataram maiores benefícios e menor percepção de risco, enquanto profissionais mais velhos e experientes demonstraram maior ceticismo e maior demanda por regulamentação. Uma descoberta adicional revelou que mulheres e participantes com treinamento em IA estavam mais abertos ao debate transumanista. Esses resultados nos permitem vincular os debates teóricos à prática jurídica, destacando a importância de promover programas de treinamento, marcos regulatórios adequados e reflexão interdisciplinar para consolidar um ecossistema jurídico digital inclusivo, eficiente e eticamente sustentável.

Palavras-chave: *Inteligência Artificial, Direito, Adoção Tecnológica, Regulação, Riscos, Benefícios, Transumanismo, Treinamento.*

1 INTRODUCTION

Artificial intelligence (AI) has established itself as a central axis of transformation in various sectors, including the legal sector, where it opens the way to new challenges and opportunities (Segura, 2023, pp. 45-72). Its incorporation into the legal practice has generated discussions on efficiency, access to justice, ethical aspects and regulation, placing legal professionals before a structural change in their way of practicing. Although recent studies such as the one by Winter (2022) have delved into the philosophical and normative implications of these technologies, there is still a considerable gap regarding their adoption and perception by those who practice law, which shows the need to develop empirical research in this area.

In this context, for Gamito (2024, pp. 61-71) it is necessary to analyze how sociodemographic and professional variables such as age, gender, the position held, academic level and work experience affect the level of use and valuation of artificial intelligence. According to Wani and Mansoor (2025, pp. 67-92) these factors not only provide evidence on the patterns of technological adoption, but also identify possible resistances, risk perceptions and regulatory expectations that affect the integration of these tools in the field of justice. In this way, it is possible to establish a bridge between

theoretical debates and the concrete dynamics of legal practice, which is key to the design of relevant public policies and professional training strategies (Niriella, 2025).

The general objective of this study was to analyse the sociodemographic and training factors that affect the adoption and perception of artificial intelligence in professionals in the legal field. As specific objectives, we sought: (1) to describe the characteristics of the sample in terms of age, gender, position, academic level and work experience; (2) identify the prevalence of AI use and the most commonly used tools; (3) to examine the relationship between sociodemographic variables and the perception of benefits, risks, regulation and transhumanism; and (4) to evaluate the predictors of AI use and associated perceptions using regression models.

Based on these objectives, the following research questions were formulated: What sociodemographic characteristics influence the adoption of AI in the legal field? How do work experience and previous training in AI condition the perception of benefits and risks? What factors predict a greater demand for regulation in the face of the use of these technologies? How does the use of AI relate to the openness towards transhumanist debate in law? These questions guided the analysis and allow the results to be linked to international research on ethics, regulation and the future of the legal profession.

This research offers empirical evidence that complements the current literature by putting at the center the perspective of legal professionals in the face of the irruption of artificial intelligence. The results provide a solid foundation for understanding the dynamics of adoption and perception, while nurturing academic and practical reflection on the need to build an inclusive, regulated, and ethically responsible digital legal ecosystem. This seeks to contribute to global debates on the impact of AI on justice and to the construction of governance frameworks in accordance with the principles of transparency, equity and legitimacy.

2 ARTIFICIAL INTELLIGENCE IN THE LEGAL FIELD

Artificial intelligence (AI), as Kandeel and Elrefae (2023, pp. 67-80) they say, has become a cross-cutting phenomenon[1] that profoundly transforms social and professional dynamics, with a particular emphasis on the legal field. Its adoption cannot be understood

[1] The notion of cross-cutting phenomenon refers to processes that span across different domains and disciplines, producing transversal effects that reshape social and professional structures.

as an isolated event, but as part of an evolutionary process in which automation and digitalization have gradually permeated regulatory systems (Tversky and Kahneman, 1983). Since the first theoretical reflections on the role of algorithms in legal decision-making, the specialized literature has recognized the capacity of AI to provide efficiency and predictive capacity in legal scenarios, although it has also warned about the risks associated with its implementation without a critical perspective that adequately frames it (Venkatesh et al., 2003, pp. 435-478)[2]

The recent development of advanced language models and machine learning systems by Farrell and Sheed-Finck (2023)has intensified this impact, placing legal professionals in a dilemma between preserving legal traditions or embracing technological innovation[3]. To Liu and Li (2024) this end, it is not limited to the incorporation of new tools, but implies a profound review of the foundations that sustain law as a social and cultural discipline. In this context, for Zhang and Moreira (2023, pp. 481-496) AI, it introduces epistemological challenges, by questioning the ways in which legal knowledge is generated, interpreted, and applied. This scenario has given rise to an ongoing academic debate around the compatibility of these technologies with the fundamental principles that govern the justice system.

3 OPPORTUNITIES AND CHALLENGES OF AI IN JUSTICE

The potential of artificial intelligence in the judicial field, as Martinho (2025) explains, has been widely valued for its ability to optimize procedures, reduce operating costs and favor greater access to justice. These technologies have proven their effectiveness in tasks such as file classification, document organization and the estimation of procedural deadlines, providing solutions to the overload faced by many judicial systems (Zuckerman, 2020, pp. 291-304)[4]. From this perspective, AI by Rajendra y Thuraisingam (2022) is conceived as a strategic tool to promote a more agile and effective

[2] In the legal literature, this debate is often linked to the need for robust ethical frameworks to regulate the application of algorithmic systems in judicial contexts.
[3] This tension is particularly evident in countries with a civil law tradition, where codified law generates greater resistance to technological flexibility.
[4] In many overloaded judicial systems, the incorporation of AI into administrative processes has significantly reduced processing times, although these benefits depend on the degree of existing digitalization.

justice, in line with the need to respond to the growing citizen demands of increasingly complex societies[5].

However, the expected benefits are not without obstacles or relevant risks. Various studies such as the one by Zafar (2024) have highlighted the presence of algorithmic biases, originating in incomplete data sets or in non-transparent architectures, which can perpetuate and even intensify structural inequalities[6]. Added to this is the opacity inherent in many algorithmic systems, which raises serious concerns about the right to defence and the requirement for duly substantiated judicial decisions (Sepúlveda and Machuca, 2021)[7]. In this context, citizen trust stands as a key element, whose sustainability depends on the implementation of regulatory frameworks that guarantee transparency, human control, and effective accountability mechanisms.

4 IMPACT ON PROFESSIONAL AND JUDICIAL PRACTICE

The practice of law is going through a process of accelerated transformation, driven by the incorporation of technologies based on artificial intelligence. For Engelmann and Costa (2024, pp. 256-277) these tools, they not only allow repetitive tasks to be automated, but also open up the possibility of exploring new modalities of legal practice, such as predicting judicial results, automating contracts or assisting in legal research processes[8]. According to Kulkarni et al., (2024) both lawyers and judges, they have begun to experiment with language models that facilitate their daily work, although they do so cautiously, recognizing the technical and ethical limitations of these technologies[9]. As a result, adoption is not presented in a uniform way, but reveals a diversity of positions influenced by generational, educational and cultural factors.

In the judicial environment, the debates have focused particularly on the figure of the so-called "robot judge" and on the possibility of partially delegating decision-making

[5] This perspective connects with the idea of "efficient justice," understood as the capacity to respond quickly and adequately to contemporary social complexity.
[6] Algorithmic biases often reproduce pre-existing inequalities, creating a risk of indirect discrimination in automated judicial decisions.
[7] The opacity of algorithmic systems is known as the black box problem, and it represents one of the greatest current challenges for guaranteeing the right to defense.
[8] The prediction of judicial outcomes relies on statistical analysis and machine learning techniques, although it does not replace the interpretative assessment of the judge.
[9] The cautious approach of judges and lawyers reflects an awareness that these tools are useful as support but do not replace legal training or ethical principles.

functions to automated systems (Bajraktari and Qatani, 2024, pp. 43-56)[10]. The research of Singh (2024) coincides in pointing out that, although artificial intelligence can play a significant role as technical support, the responsibility to decide must continue to be human in order to preserve the legitimacy of the system and guarantee respect for the fundamental principles of due process[11]. From this perspective, Pulido (2023) say AI is conceived more as an auxiliary resource than as a replacement, which reinforces the importance of maintaining the centrality of the judge in the administration of justice.

5 REGULATION AND ETHICS OF AI IN LAW

According to Weber (2020) the debate on regulation, it has positioned itself as one of the fundamental axes in specialized research on the application of artificial intelligence in the legal field. As explained by Cooreman and Zhu (2022, pp. 56-99) proposals such as the European AI Regulation and the recommendations of international organizations, they have energized the discussion regarding the need to establish regulatory frameworks that guide the ethical and responsible use of these technologies. In this context, according to Pintérová (2024, pp. 361-383) principles such as transparency, explainability, accountability and human oversight, they are emerging as necessary regulatory pillars to ensure implementation that respects fundamental rights.

Similarly, for Gaubienė (2024, pp. 54-63) it has been emphasized that the design of these regulatory frameworks must find a balance between the promotion of technological innovation and the guarantee of legal certainty. For Cabrera (2024) an overly restrictive regulatory approach could hinder the development and adoption of AI-based solutions, while insufficient or ambiguous regulation could put fundamental rights such as equality before the law and access to fair justice at risk. For this reason, for Kudeikina and Kaija (2024) recent research, they defend the concept of flexible regulation, which allows adapting to technological advances without renouncing the defense of the principles of the rule of law. In this capacity for balance lies the long-term viability of integrating artificial intelligence into legal systems.

[10] The concept of the "robot judge" is the subject of academic and political debate and is often used as a symbolic category rather than an immediate practical reality.
[11] Preserving the centrality of the judge is directly linked to the principle of democratic legitimacy in the administration of justice.

6 PHILOSOPHICAL AND TRANSHUMANIST PERSPECTIVES

As he explains Du (2024) beyond the technical and legal components, the incorporation of artificial intelligence raises philosophical questions about the very essence of justice and human subjectivity. More et al., (2024, pp. 163-186) they argue that AI can be conceived as an extension of the art of correctly applying the law, as it facilitates the resolution of disputes and contributes to promoting efficiency and equity. However, Cléro (2021, pp. 103-135) concerns persist that an excessive use of these technologies could lead to a dehumanization of the legal practice, reducing the ethical and moral dimension that constitutes the basis of judicial work.

The transhumanist debate introduces an additional level of complexity by contemplating scenarios in which emerging technologies, such as brain-computer interfaces, could radically transform human capacities linked to legal decision-making (Leal, 2021). Although these hypotheses are still in the realm of speculation, they are useful for reflecting on the current limits of the legal profession and the place of ethics in a future where technology could be integrated into the human body itself (Bruneault and Laflamme, 2021, pp. 757-766). These discussions highlight the importance of sustaining an interdisciplinary approach that articulates law, philosophy, ethics, and technology.

7 RATIONALE FOR THE STUDY

The literature review shows that most studies have focused on the normative, ethical and regulatory aspects of artificial intelligence, paying less attention to its empirical impact on those who practice the legal profession. According to Tulchinskii (2023, pp. 75-88) this omission, it highlights the need for research that analyzes how sociodemographic variables such as age, gender or professional trajectory affect the adoption and perception of these technologies (Adorno, 2021)[12]. Examining these dimensions allows us to understand not only the levels of use, but also the attitudes, resistances and expectations that coexist within the professional practice of law.

In this scenario, the study presented here constitutes an original contribution by offering empirical evidence on the use and perception of artificial intelligence by a group

[12] Empirical literature on AI in the legal field is still scarce, since ethical and regulatory analyses have traditionally been prioritized over concrete professional practice.

of professionals in the legal field[13]. This perspective facilitates the articulation of theoretical debates with the concrete practices of legal work, providing a broader vision of the process of digital transformation in the justice system (Ali et al., 2023, pp. 685-702). Consequently, the results not only enrich the existing literature, but also provide key elements for the formulation of public policies and training programs aimed at accompanying the transition towards a more inclusive, efficient and ethically sound digital legal ecosystem (van Norren, 2023, pp. 112-128)[14].

8 METHODOLOGY

8.1 Study design

A quantitative approach study was carried out, non-experimental, cross-sectional and with a correlational-explanatory scope, aimed at understanding the factors that influenced the use of artificial intelligence (AI) in the legal field (Yassir and López de Ramos, 2023). The cross-sectional design allowed the sociodemographic, professional and technological perception variables to be recorded at a single time, while the explanatory level supported the use of multivariate models to identify predictive relationships between these variables (Mejía-Rivas, 2022)[15]. A non-experimental design was chosen because it was not feasible to directly manipulate variables such as age or work history. Likewise, the correlational nature facilitated the analysis of complex associations between variables, a key aspect to address phenomena related to the adoption of emerging technologies[16].

[13] This empirical approach is innovative because it connects the practical dimension of law with theoretical debates that often remain at an abstract level.
[14] The formulation of public policies based on empirical evidence makes it possible to design more effective training programs on the use of artificial intelligence.
[15] A cross-sectional design implies that data were collected at a single point in time, which limits causal inferences but allows the identification of significant relationships.
[16] The correlational nature makes it possible to establish associations but does not demonstrate causality, a key aspect in interpreting the results.

8.2 Participants and sampling

The target population was made up of legal professionals who were in active practice. A sample of 300 participants was selected, which was distributed equally according to gender, age and level of professional experience[17]. The sampling strategy used was non-probabilistic, specifically intentional and chain-based, using contact networks, professional associations and different judicial agencies[18]. This sampling approach was relevant to capture a diversity of profiles depending on the position held, the academic level achieved and previous training in artificial intelligence (Labajos et al., 2021). Before proceeding with the analyses, an incomplete or duplicate response was cleaned in order to ensure the quality and consistency of the data.

8.3 Variables and measures

The main dependent variable corresponded to the use of artificial intelligence. Four continuous dimensions were analyzed as outcome variables: perception of benefits, risks, regulation and transhumanism, all measured using Likert-type scales[19]. Independent variables included age, professional experience, gender, position held, and AI background (Naghi, 2000). For the analytical treatment, categorical variables were coded using dichotomous indicators, while continuous variables were maintained at their original scale. The adequacy of the predictors included in the models was verified and transformations were applied when the statistical assumptions required it.

8.4 Instruments and internal consistency

The information was collected through an ad hoc structured questionnaire, composed of seven blocks. Block A included sociodemographic data. Block B addressed the use, frequency and tools of AI. Blocks C to F integrated 5-point Likert scales on support or replacement, ethical and legal risks, regulation, and transhumanism. And

[17] The balanced composition of the sample seeks to avoid biases derived from overrepresentation of gender or age.
[18] Chain-based sampling is especially useful in closed professional communities, although it limits the generalizability of the results.
[19] Transhumanism was included as a dimension to capture attitudes regarding the advanced integration of technology into legal practice.

Block G measured self-evaluation of knowledge and training received. The reliability of the scales was high, with Cronbach's alpha values between 0.83 and 0.96[20], which supports their consistency.

8.5 Data collection procedure

Data collection was carried out in digital format, through a secure form that was disseminated through professional associations and previously established contact networks[21]. Before participating, respondents accepted informed consent, which detailed the objectives of the study, the voluntary nature of their participation, and the guaranteed confidentiality of the data collected. The estimated time to complete the instrument ranged from 12 to 15 minutes.

8.6 Statistical analysis plan

The analysis began with the application of descriptive statistics, followed by bivariate tests selected according to the nature of the variables: Student's t-test was used to compare means between two groups, ANOVA for variables with more than two categories, chi-square to explore associations between qualitative variables, and Spearman's correlations to evaluate relationships between ordinal or normally undistributed variables[22]. To predict the use of artificial intelligence, a binary logistic regression model was used, while the dimensions of perception benefits, risks, regulation and transhumanism were analyzed through multiple linear regressions[23]. The assumptions of collinearity, independence and homoscedasticity were verified, and odds ratios, beta coefficients, 95% confidence intervals and effect sizes were reported, establishing the significance level at $p < 0.05$.

[20] Cronbach's alpha values above 0.80 are considered indicators of high reliability in social research instruments.
[21] The use of digital forms ensured rapid data collection, although it may exclude professionals with low technological literacy.
[22] The combined use of parametric and non-parametric tests ensures appropriate analysis depending on variable type and data distribution.
[23] Logistic regression is suitable for dichotomous variables, while multiple linear regression allows the analysis of continuous variations in perceptions.

9 RESULTS

9.1 Sample description

The sample analyzed was composed of 300 professionals from the legal field, who represented a wide variability in terms of age and experience within the judicial system. The mean age was 40.7 years (SD = 8.6), with a range ranging from 25 to 55 years, indicating that most of the participants were in middle adulthood, although the participation of younger and older people was also recorded, which contributed diversity to the professional perspectives considered. In relation to work experience, an average of 11.7 years (SD = 6.4) was obtained, with a range of 5 to 30 years, which evidenced heterogeneous trajectories and the inclusion of both professionals in the initial stages and individuals with extensive experience in the sector (Table 1).

In the sociodemographic dimension, 52.0% of the participants identified as male and 48.0% as female, reflecting a balanced participation between both groups, without a marked predominance. Regarding the distribution by position, trial lawyers constituted 44.0% of the sample, followed by judicial officials with 26.7%, judges with 17.7% and other diverse professional roles with 11.7%. Regarding the academic level achieved, a predominance of the Bachelor's degree was identified with 65.3%, followed by Master's studies with a value of 28.3% and Doctorate with a value of 6.3%, which confirms a varied composition in terms of professional training (Table 1).

Table 1.

Characteristics of the sample: gender, position and academic level.

Gender Variable	
Male	52%
Female	48%
Variable Charge	
Trial Lawyer	44.0%
Judicial officer	26.7%
Judge	17.7%
Other	11.7%
Academic Level Variable	
Degree	65.3%
Mastery	28.3%
Doctorate	6.3%

Source: Authors.

9.2 Use of artificial intelligence

Regarding the use of tools based on artificial intelligence, it was observed that 58.0% of the people surveyed indicated that they used them in the development of their professional functions, while 42.0% said they did not do so, which shows a relevant presence of these technologies in the legal environment. When analyzing the specific applications used, it was found that 23.0% of participants reported the use of ChatGPT, followed by Gemini with 10.7%, Meta AI with 12.0%, and 12.3% mentioned other tools other than the most popular ones. However, 42.0% indicated that they do not use any platform of this type, which reveals a significant division between those who adopt these technologies and those who remain on the sidelines (Table 2).

Regarding the frequency of use, the results showed a heterogeneous distribution: 42.0% stated that they never used these tools, while the rest of the participants reported different levels of intensity in their use. Specifically, 27.7% indicated using them occasionally, 13.0% frequently, 8.7% sporadically, and another 8.7% stated that they used them regularly. These data reflect that, although a considerable part of the sample has not yet incorporated artificial intelligence into their daily practice, there is a significant group that has begun a process of progressive integration, either through regular or intermittent use (Table 2).

Table 2.

Use of AI in the sample.

Variable Use of AI	
Yes	52%
No	48%
Variable Tools	
ChatGTP	23%
Gemini	10.7%
AI Meta	12%
Other	12.3%
No	42%
Variable Frequency	
Never	42%
Sometimes	27%
Often	13%
Seldom	8.7%
Always	8.7%

Source: Authors.

9.3 Instrument reliability

In order to evaluate the reliability of the instruments, the internal consistency of the four scales used was calculated. The results showed adequate values of Cronbach's alpha coefficient in all cases, which indicates that the items corresponding to each scale presented a solid internal correlation and reliably measured the proposed theoretical construct. Specifically, the Benefits scale (C) obtained an alpha of 0.945, the Risk scale (D) reached a value of 0.939, the Regulation scale (E) had a coefficient of 0.959, and finally, the Transhumanism scale (F) obtained a result of 0.830 (Table 3).

All scales exceeded the minimum threshold of 0.70, considered as the standard criterion for acceptable reliability. In particular, the scales that measured benefits, risks and regulation reached levels of consistency considered excellent, while the scale related to transhumanism showed a high, although slightly lower, level, which did not prevent its usefulness within the framework of the research objectives.

Table 3.

Cronbach's alpha.

Scale	Cronbach's alpha
C	0,945
D	0,939
E	0,959
F	0,83

Source: Authors.

9.4 Cronbach's alpha correlation

Spearman's correlation analysis allowed us to identify consistent relationships between the different dimensions of the questionnaire and the sociodemographic variables. It was observed that age presented a positive and strong association with the Regulation scale ($\rho = 0.93$, $p < .001$), indicating that older participants tended to express greater support for the need to establish regulations around the use of artificial intelligence. Similarly, work experience showed a very high positive correlation with the Risks scale ($\rho = 0.80$, $p < .001$), which suggests that professionals with longer careers perceived more intensely the risks associated with the application of these technologies in the legal field.

When exploring the interrelationships between the scales, it was detected that the perception of Benefits (C) was negatively correlated with the Risk scale (D) ($\rho = –0.58$, $p < .001$) and with the Regulation scale (E) ($\rho = –0.52$, $p < .001$), indicating that those people who recognized more advantages in the use of AI tended to minimize both the perceived risks and the need to establish regulatory controls. In contrast, the same Benefits scale (C) showed a positive correlation with Transhumanism (F) ($\rho = 0.61$, $p < .001$), suggesting that a favorable attitude towards artificial intelligence was associated with greater openness to debates related to the transformation of the human condition.

Likewise, the Risk scale (D) showed a significant positive correlation with the Regulation scale (E) ($\rho = 0.77$, $p < .001$), which reinforces the idea that the perception of greater risks translates into greater support for the implementation of regulatory frameworks. Table 4 details the complete values of the observed correlations, while Figure 1 offers a heat map that facilitates their visual interpretation; reddish tones indicate higher correlations, and blues reflect inverse relationships. Taken together, these results confirm that both age and professional experience are determining variables in the way in which the benefits and risks associated with the use of artificial intelligence in the legal environment are perceived.

Table 4.

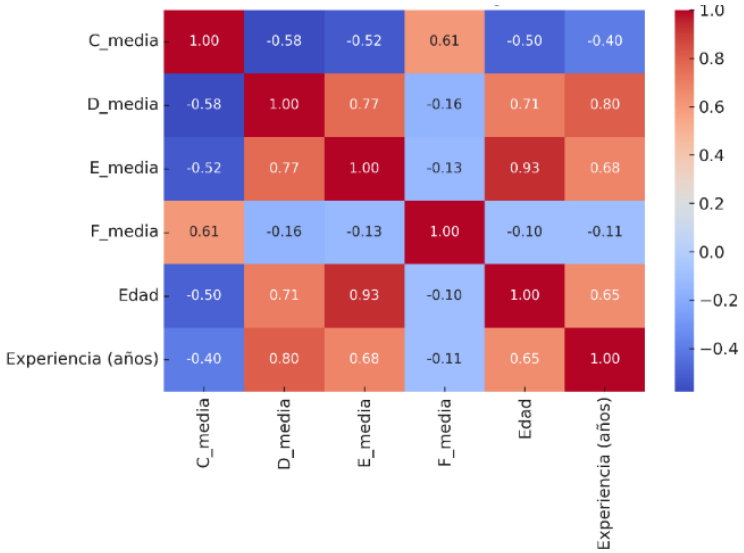
Cronbach's Alpha correlation.

	C medium	D media	E medium	F medium	Age	Experience (years)
C medium	1	-0,57826737	-0,52465097	0,60828705	-0,50266090	-0,40070387
D media	-0,57826737	1	0,76630873	-0,16394991	0,70790024	0,80304149
E medium	-0,52465097	0,76630873	1	-0,13389483	0,93225393	0,67967228
F medium	0,60828705	-0,16394991	-0,13389483	1	-0,10470232	-0,10873278
Age	-0,50266090	0,70790024	0,93225393	-0,10470232	1	0,65235880
Experience (years)	-0,40070387	0,80304149	0,67967228	-0,10873278	0,65235880	1

Source: Authors.

Figure 1.

Spearman correlation matrix.



Source: Authors.

9.5 Mean comparisons

The results obtained from Student's t-tests and ANOVA showed statistically significant differences, especially as a function of the use of artificial intelligence and, to a lesser extent, gender. In relation to the use of AI, it was found that participants who claimed to use these tools obtained significantly higher scores on the Benefits scale (C) ($t = 16.10$, $p < .001$) and on the Transhumanism scale (F) ($t = 8.09$, $p < .001$). On the other hand, those who did not use AI had higher scores in Risk Perception (D) ($t = –5.85$, $p < .001$) and in the Regulation scale (E) ($t = –4.19$, $p < .001$). These contrasts were graphically represented by boxplots in figures number 2 to number 5, where differentiated and consistent patterns are evidenced between the groups of users and non-users of artificial intelligence technologies.

Table 5.

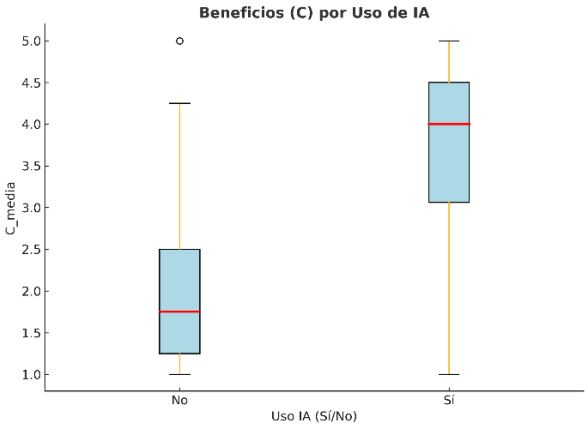
Student's t-comparisons.

	T test Genero stat	T test Gender p	T test UsoIA stat	T test UsoIA p
C medium	-0,682542474	0,495427562	16,10205203	7.32382E-42
D media	-0,109233309	0,91309101	-5,846035614	1.36022E-08
E medium	-0,226291693	0,821129907	-4,185513609	3.84574E-05
F medium	-3,305596908	0,001065504	8,094255309	2.15749E-14

Source: Authors.

Figure 2.

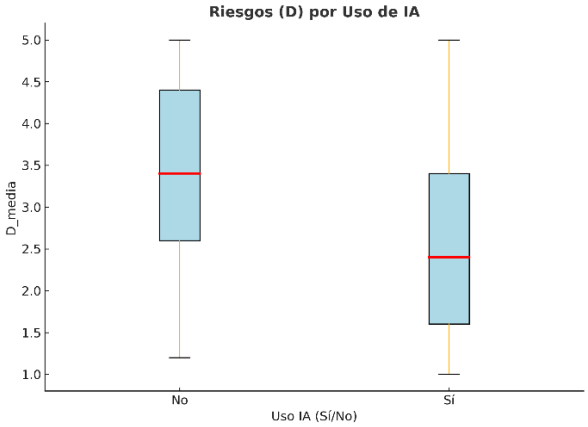
Benefits (C) for Use of AI



Source: Authors.

Figure 3.

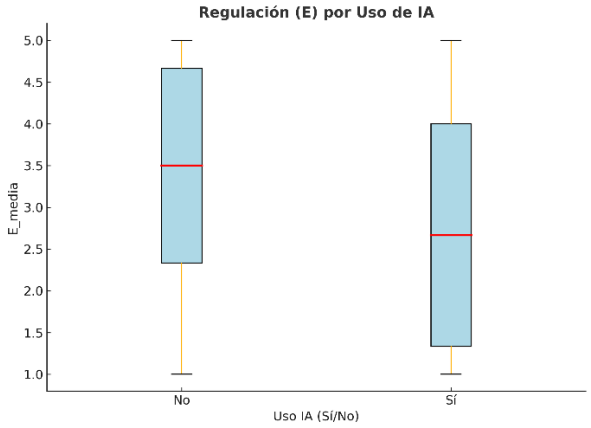
Risks (D) from Use of AI.



Source: Authors.

Figure 4.

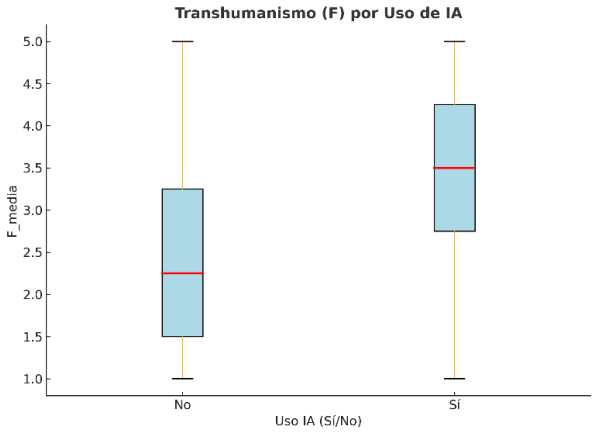
Regulation (E) for Use of AI.



Source: Authors.

Figure 5.

Transhumanism (F) by Use of AI.

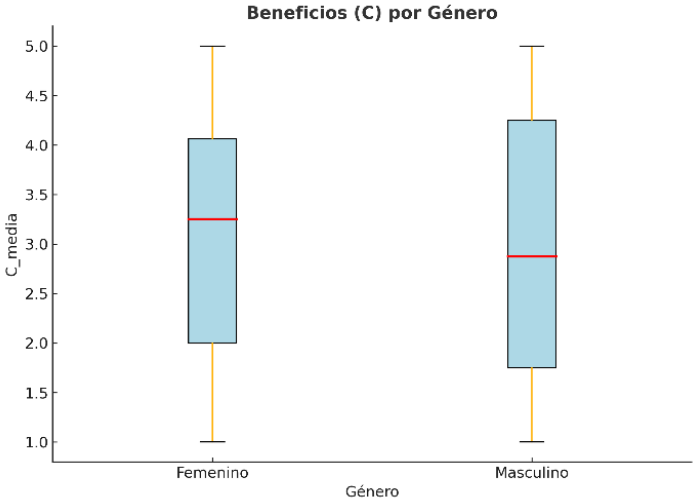


Source: Authors.

With regard to gender, no statistically significant differences were identified in the Benefit (C), Risk (D) or Regulation (E) scales ($p > .05$). However, a relevant difference was found in the Transhumanism scale (F), in which women reported higher scores than men ($t = –3.31$, $p = .001$). This result is represented in figures 14 to 17, where the variation between the two groups is clearly visualized.

Figure 6.

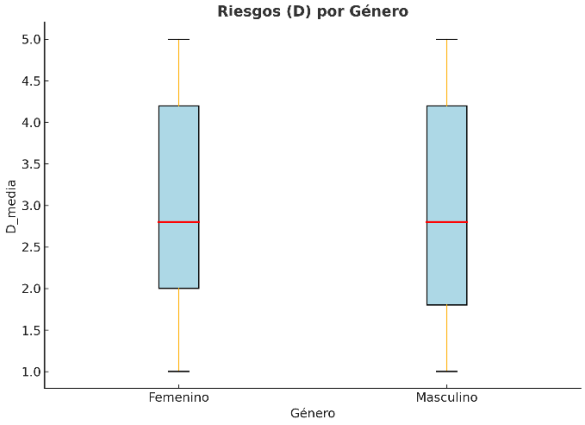
Benefits (C) by Gender.



Source: Authors.

Figure 7.

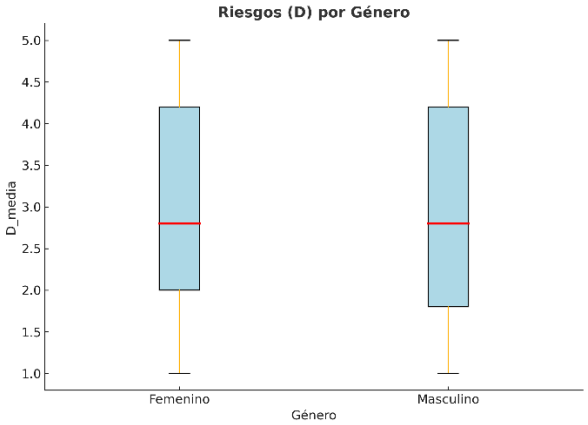
Risks (D) by Gender.



Source: Authors.

Figure 8.

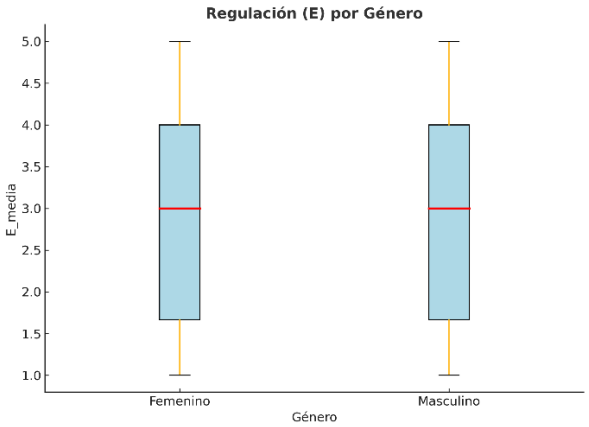
Risks (D) by Gender.



Source: Authors.

Figure 9.

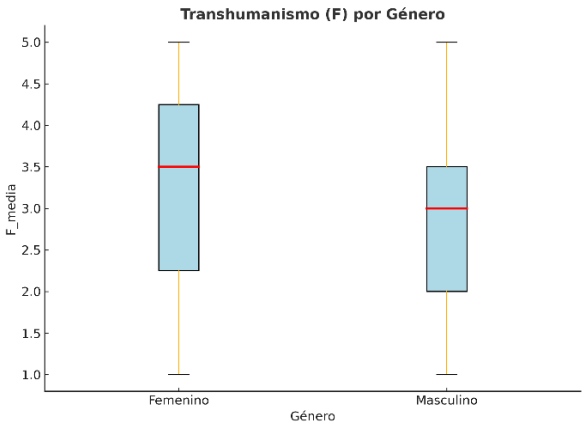
Regulation (E) by Gender.



Source: Authors.

Figure 10.

Transhumanism (F) by Gender.



Source: Authors.

The analyses of variance did not show statistically significant differences in terms of professional position or academic level (all with $p > .05$). Only a slight trend was detected in the Regulation scale (E) linked to academic level ($F = 2.21$, $p = 0.112$), where participants with a higher level of education tended to express greater support for the need for regulation, although this difference did not reach statistical significance (Table 6).

Table 6.

ANOVA.

	ANOVA Cargo F	ANOVA Cargo p	ANOVA Level F	ANOVA Level p
C medium	0,185975505	0,905899312	1,014509509	0,363833188
D media	1,239155874	0,295668577	2,073142899	0,127606359
E medium	0,510499602	0,675334915	2,208222963	0,111696983
F medium	0,258976232	0,854907733	0,630982677	0,532780411

Source: Authors.

9.6 Categorical associations (Chi-square)

The results of the Chi-square tests indicated that the only statistically significant relationship was presented between the use of artificial intelligence and training in this area ($x^2(1, N = 300) = 11.52$, $p < .001$), with a Cramer's $V = 0.196$, which corresponds to a low to moderate magnitude effect. This finding shows that participants who had received AI training were more likely to use these tools compared to those who did not have such training (Table 7).

Table 7.

Chi-square test

	Chi2	p	Gl	Cramers_V
Use AI x Gender	3,491103006	0,061699463	1	0,107874974
Use AI x Cargo	2,47518454	0,479792491	3	0,090832897
Use AI x Academic Level	0,033435723	0,983421106	2	0,010557102
Use AI x G2. AI Training	11,51824881	0,000689163	1	0,195944285
	3,491103006	0,061699463	1	0,107874974

Source: Authors.

No statistically significant associations were identified between the use of artificial intelligence and gender ($x^2(1) = 3.49$, $p = 0.062$, $V = 0.108$), between the use of AI and the position held ($x^2(3) = 2.48$, $p = 0.480$, $V = 0.091$), or between the use of AI and the academic level achieved ($x^2(2) = 0.03$, $p = 0.983$, $V = 0.011$). These results indicate that the adoption of artificial intelligence in the legal field was mainly linked to specific training in this technology, rather than to demographic or professional variables.

9.7 Predictive models

In order to identify the factors that predicted the use of artificial intelligence, a binary logistic regression model was applied. The results showed that age behaved as a negative predictor (OR = 0.93, $p < .001$), indicating that younger participants were more likely to use these tools. In contrast, professional experience was evidenced as a positive predictor (OR = 1.06, $p = .016$), reflecting that those with longer careers also tended to use AI. Likewise, the male gender was associated with a lower probability of use (OR = 0.56, $p = .023$), suggesting that women showed higher levels of adoption. AI training emerged as the strongest predictor (OR = 2.76, $p < .001$), confirming that those with specific training were more than twice as likely to employ these technologies. The complete results are detailed in Table 8.

Table 8.

Logistic regression for the use of AI (yes/no).

	Coef	HERSELF	z	p	OR	CI 2.5%	97.5% CI
const	2,445399853	0,809383189	3,021312877	0,002516811	11,53516104	2,360819493	56,36175943
Age	-0,073788385	0,018464712	-3,996183871	6.43717E-05	0,928868235	0,89585275	0,963100463
Experience (years)	0,06073994	0,025218917	2,408507105	0,016017915	1,062622533	1,011375073	1,116466756
Male	-0,579439921	0,254823719	-2,273885346	0,022972881	0,560212041	0,339971186	0,923129795
Judicial official position	-0,056548736	0,304063525	-0,185976715	0,852463022	0,945020427	0,520735395	1,715004619
Judge position	0,333705234	0,358834757	0,929969095	0,352387086	1,396131551	0,691003155	2,820802325
Other charge	0,535014173	0,42481284	1,259411493	0,20788174	1,707472442	0,742584216	3,92610303
Academic level Bachelor's degree	-0,137774455	0,516658294	-0,266664556	0,789727446	0,871295186	0,316502319	2,398577374
Master's Academic Level	-0,060005162	0,546118885	-0,109875641	0,912508001	0,941759672	0,322904657	2,746666111
Use AI (Yes/No) Yes	1,015479576	0,261104516	3,889168953	0,000100588	2,76068704	1,654857207	4,605468618

Source: Authors.

Regarding the perception of Benefits (C), the linear regression model indicated that the main predictors were the use of AI (β = 1.56, p < .001) and AI training (β = 0.51, p < .001), both with positive effects. On the other hand, age (β = –0.035, p < .001) and experience (β = –0.042, p < .001) were negatively related, showing that younger participants with less time in the professional practice perceived greater benefits. The model achieved an $R^2 = 0.68$, explaining a high proportion of the variance (Table 9).

Table 9.

Linear regression for benefits (C).

	Coef	HERSELF	t	p
const	3,621761957	0,298770577	12,12221763	1.27575E-27
Age	-0,034924719	0,006434044	-5,428112881	1.20741E-07
Experience (years)	-0,041966828	0,008823626	-4,756188437	3.11851E-06
Male	0,000474268	0,089491991	0,005299564	0,995775236
Judicial official position	0,005101753	0,107381564	0,047510511	0,962139168
Judge position	-0,122260612	0,124035513	-0,985690386	0,325109565
Other charge	-0,167867395	0,145627426	-1,152718277	0,249978594
Academic level lic.	0,126304952	0,182718168	0,691255572	0,489959832
Master's Academic Level	0,175884421	0,193389541	0,90948259	0,3638533
Use AI (Yes/No) Yes	1,565405318	0,094181012	16,62124129	5.2999E-44
G2. AI Training (Yes/No) Yes	0,512385228	0,091381706	5,607087567	4.80749E-08
R2	0,679797254			
R2_adj	0,668717575			

Source: Authors.

In relation to Risk Perception (D), regression analyses revealed that both age (β = 0.033, p < .001) and experience (β = 0.126, p < .001) predicted higher scores in this dimension. However, the use of AI behaved as a negative predictor (β = –0.66, p < .001), meaning that those who used these tools perceived fewer risks than non-users. The model explained a very high proportion of the variance ($R^2 = 0.80$), (Table 10).

Table 10.

Linear regression for Risks (D).

	Coef	HERSELF	t	p
const	0,52753353	0,230396787	2,289673983	0,022760987
Age	0,03344017	0,00496161	6,739781788	8.5946E-11
Experience (years)	0,126441682	0,006804335	18,58251871	2.94499E-51
Male	0,037333336	0,069011706	0,540971061	0,588944252
Judicial official position	-0,106763094	0,082807242	-1,289296583	0,198325934
Judge position	0,132675154	0,095649926	1,387091027	0,166482825
Other charge	-0,0091365	0,11230052	-0,081357589	0,935213891
Academic level lic.	0,110387464	0,140903028	0,783428616	0,434017011
Master's Academic Level	-0,029592158	0,149132252	-0,198428959	0,842848975

Use AI (Yes/No) Yes	-0,661464575	0,072627642	-9,107614649	1.43498E-17
G2. AI Training (Yes/No) Yes	0,070311609	0,070468959	0,997767099	0,319226983
R2	0,796667141			
R2_adj	0,789631402			

Source: Authors.

Regarding the perception of Regulation (E), the results showed that age (β = 0.123, p < .001) and professional experience (β = 0.039, p < .001) had a positive effect, evidencing that participants with more years in the profession tended to support the need for regulatory frameworks more firmly. On the other hand, the use of AI appeared as a negative predictor (β = –0.21, p < .001), which suggests that users considered regulation less necessary. This model reached an $R^2 = 0.89$, making it the most solid of the adjusted models (Table 11).

Table 11.

Linear regression for Regulation (E).

	Coef	**HERSELF**	**t**	**p**
const	-2,046966863	0,177976757	-11,50131568	1.85637E-25
Age	0,122596979	0,003832741	31,98676046	5.96631E-97
Experience (years)	0,031906173	0,005256208	6,070188246	4.00525E-09
Male	0,054448079	0,053310116	1,021346099	0,307944688
Judicial official position	-0,036196029	0,063966883	-0,565855766	0,571930918
Judge position	0,003623713	0,073887591	0,049043589	0,960918435
Other charge	-0,118038876	0,08674983	-1,360681345	0,174674614
Academic level lic.	-0,075922641	0,108844677	-0,697531958	0,486030721
Master's Academic Level	-0,111350608	0,115201583	-0,966571859	0,334566258
Use AI (Yes/No) Yes	-0,209547237	0,056103352	-3,735021677	0,000226103
G2. AI Training (Yes/No) Yes	0,034514048	0,054435814	0,634031995	0,526561454
R2	0,894474714			
R2_adj	0,89082332			

Source: Authors.

In the perception of Transhumanism (F), gender (β = –0.36, p = .002) were identified as significant predictors, where women reported higher values than men, as well as two positive factors: the use of AI (β = 0.85, p < .001) and AI training (β = 0.59, p < .001). Although this model had a more limited explanatory power ($R^2 = 0.28$), it was possible to demonstrate that both sociodemographic characteristics and direct exposure to artificial intelligence influenced attitudes towards debates related to the human condition (Table 12).

Table 12.

Linear Regression for Transhumanism (F)

	Coef	HERSELF	t	p
const	2,317554027	0,392959698	5,897688849	1.02806E-08
Age	0,002294253	0,008462413	0,27111094	0,786499248
Experience (years)	-0,012967763	0,011605324	-1,117397734	0,264752359
Male	-0,362850717	0,117704849	-3,082716817	0,002249259
Judicial official position	0,022492486	0,141234211	0,159256637	0,873577922
Judge position	-0,034896878	0,163138412	-0,213909634	0,830768366
Other charge	-0,189859169	0,191537298	-0,99123863	0,322398259
Academic level lic.	0,221631457	0,240321107	0,922230507	0,357177613
Master's Academic Level	0,142777504	0,254356692	0,561327886	0,575009031
Use AI (Yes/No) Yes	0,845404924	0,12387211	6,824820564	5.17194E-11
G2. AI Training (Yes/No) Yes	0,59167404	0,120190308	4,922809933	1.43627E-06
R2	0,281945335			
R2_adj	0,257099153			

Source: Authors.

10 DISCUSSION

The results of this study confirmed that both sociodemographic variables and previous training in artificial intelligence played a determining role in the adoption and perception of these technologies within the legal field. In particular, logistic regression showed that age acted as a negative factor, while professional experience and training in AI were positive predictors of use[24]. These results are consistent with what has been pointed out by Wen et al., (2025) who argue that specialized training significantly increases the willingness to integrate algorithmic tools into legal practice. In a complementary way, it showed that age has a direct impact on the speed of adoption Yang (2025), with younger professionals being the ones who show greater openness to automation and technological innovation in law[25].

The role of work experience in AI adoption was particularly relevant. In this study, a longer track record was associated with a higher likelihood of use, which contrasts with the widespread idea that older professionals are technologically resilient (Lavazza et al., 2025)[26]. This apparent contradiction can be understood if a distinction is made between chronological age and accumulated experience; While the former tends to decrease openness to innovation, the latter provides professional capital that encourages the search

[24] Logistic regression made it possible to identify predictors of AI use, providing empirical evidence for a debate that is usually theoretical in the legal field.
[25] Younger professionals' openness to automation is consistent with the literature on technology adoption in other highly specialized professions.
[26] The idea that older professionals are resistant to technology is a stereotype that empirical evidence is beginning to nuance.

for efficiency and productivity through new tools[27]. Research in sectors such as health and education has also indicated that experience favors the incorporation of AI when tangible benefits are perceived (Cadman et al., 2025).

In terms of the perception of benefits and risks, the results showed a clear pattern: active AI users reported greater benefits and lower risks, while older professionals with long careers reported higher perceptions of risk and a greater demand for regulation[28]. These results coincide with what is stated by Di Plinio (2025) who argues that technological familiarity decreases the perception of threat, and with Widłak (2025), who highlights how more experienced jurists adopt more cautious positions in the face of judicial automation. In this sense, the skepticism of those with a longer career can be understood as a protection mechanism aimed at preserving legal certainty and procedural guarantees, elements that could be compromised by a hasty implementation of algorithmic systems (Li and Liu, 2024).

In terms of regulation, the models showed that both age and experience were predictors of greater support for the creation of regulatory frameworks, while frequent use of AI was linked to a lower perception of the need for regulation[29]. This result coincides with what is maintained by Ali et al., (2023) who observes that regular users tend to trust the systems they use more, while non-users demand more emphatically rules of control and transparency. This pattern is also in line with the analysis of van Norren (2023) the regulation of emerging technologies, where it is noted that the most consolidated sectors promote strict regulations, while users with greater exposure are committed to flexible schemes that favor innovation.

An additional relevant result was related to the dimension of transhumanism. It was observed that women, as well as those who already used or had received training in AI, were more open to this debate[30]. This result is in line with what was reported by Bruneault and Laflamme (2021) who pointed out that direct contact with AI leads to more positive attitudes towards its ethical and social implications. It is also linked to what has been stated by More et al., (2024) who argue that education and practical experience with

[27] The distinction between chronological age and accumulated experience is key to explaining the paradox between resistance and professional capital.
[28] Risk perception is a central element in technology acceptance, particularly in sectors where legal certainty is paramount.
[29] Frequent users tend to trust the systems, generating a familiarity bias that may influence their lower demand for regulation.
[30] The link between gender and openness to transhumanism has been noted in other studies, suggesting differences in cultural interpretative frameworks.

these technologies broaden the frameworks of discussion, favoring a more inclusive vision of future scenarios around the ethics of AI. Along these lines, the greater openness shown by women towards transhumanism can be interpreted as an indicator of willingness to plural debate and the integration of diverse perspectives on the future of the legal profession. (Du, 2024).

Another relevant dimension of the discussion is related to the practical implications of the results for the legal field. The fact that more than half of the sample used AI is evidence that these technologies are no longer marginal and are in a sustained process of adoption (Kudeikina and Kaija, 2024). However, the high percentage of professionals who have never used them (42%) reflects the existence of a technological gap that could accentuate inequalities in access to resources and competitiveness within the sector[31]. This phenomenon has also been pointed out in comparative studies in Europe and North America as expressed Cabrera (2024) where it is shown that the absence of homogeneous training policies generates a division between those who integrate AI in their daily work and those who remain on the margins of digital transformation.

The results obtained invite us to reflect on the challenges of the future. The relationship between the use of AI and lower demand for regulation poses a dilemma for policymakers: how to ensure that user trust does not translate into regulatory gaps that affect legal certainty? At the same time, the elevated perception of risk among older professionals can be leveraged as a voice of caution to help balance technological enthusiasm with the need for strong ethical and legal frameworks. Recent literature on AI Gaubienė (2024) in law underscores precisely the importance of finding a balance between innovation and regulation, in a way that promotes efficiency without sacrificing essential principles such as transparency, fairness and due process[32].

In summary, this study provided empirical evidence on the influence of sociodemographic, experiential, and formative factors on the adoption of artificial intelligence in the legal field (Pintérová, 2024). At the same time, it allowed linking these results with broader discussions on risks, benefits and regulation of emerging technologies, highlighting that training and previous experience are key elements to reduce threat perceptions and broaden discussion frameworks (Weber, 2020).

[31] The technological gap between adopters and non-adopters of AI may translate into professional and competitive inequalities.
[32] Balancing innovation and regulation is one of the most relevant debates in current law and technology scholarship.

Comparisons with previous research confirmed shared trends, but also opened up reflection on cultural and contextual particularities in the way legal professionals face the challenge of digital transformation (Bajraktari and Qatani, 2024).

11 CONCLUSIONS

The results of this study show that the adoption and perception of artificial intelligence in the legal field are determined by a complex interaction between sociodemographic, professional and training factors. Age was shown to be a negative predictor of use, while work experience and specific training in AI were shown to be relevant facilitators. Likewise, the use of these technologies was associated with a more positive perception of their benefits and less concern about risks or the need for regulation, in contrast to more traditional profiles, which demanded greater regulatory control[33]. These patterns reflect a generational and formative gap that can have an impact on technological equity within the legal practice.

The results obtained allow linking professional practice with contemporary debates on ethics, automation and transhumanism, showing that familiarity with AI not only affects its use, but also the willingness to participate in discussions about the future of law[34]. Based on these findings, the importance of promoting continuous training programs that promote a critical, ethical and plural integration of technology in justice systems is highlighted. Similarly, it is necessary to advance in the construction of balanced regulatory frameworks that guarantee transparency, due process, and equity. Future research could delve into the longitudinal analysis of these variables and their evolution in different regional or institutional contexts[35].

ACKNOWLEDGEMENTS

The authors would like to thank the Directorate of Research and Development (DIDE) of the Universidad Técnica de Ambato. This article is derived from the research project

[33] The generational and training gap may become a structural factor of inequity within professional practice.
[34] Familiarity with technology translates not only into use, but also into a greater willingness to engage in ethical and social debates.
[35] Longitudinal analysis would allow observation of the evolution of attitudes and practices, something a cross-sectional study cannot capture.

entitled “Artificial Intelligence (AI) and its Application in Legal Education and the Legal Profession,” approved by Resolution No. UTA-CONIN-2025-0058-R by the Directorate of Research and Development (DIDE) of the Universidad Técnica de Ambato, Ecuador.

FUNDING

This research was funded by the Directorate of Research and Development (DIDE) of the Universidad Técnica de Ambato, under Resolution No. UTA-CONIN-2025-0023-R. The APC was funded by the Universidad Técnica de Ambato.

DECLARATION OF COMPETING INTERESTS

The author declares that there are no conflicts of interest related to the research, writing, or submission of this manuscript. No financial, professional, or personal relationships have influenced the content or conclusions of the article titled: “Artificial Intelligence and Transhumanism: Ethical Challenges in Human Enhancement”.

REFERENCES

ADORNO, F. P. (2021). The transhumanist movement. *The Transhumanist Movement*, 1–233. https://doi.org/10.1007/978-3-030-82423-5

ALI, K., ALZAIDI, M., AL-FRAIHAT, D., & ELAMIR, A. M. (2023). Artificial Intelligence: Benefits, Application, Ethical Issues, and Organizational Responses. *Lecture Notes in Networks and Systems*, *578*, 685–702. https://doi.org/10.1007/978-981-19-7660-5_62

BAJRAKTARI, H., & QATANI, V. (2024). Artificial intelligence a “right” or “violation” of human rights and freedoms in the 21st century. *Exploration of AI in Contemporary Legal Systems*, 43–56. https://doi.org/10.4018/979-8-3693-7205-0.CH002

BRUNEAULT, F., & LAFLAMME, A. S. (2021). AI Ethics: how can information ethics provide a framework to avoid usual conceptual pitfalls? An Overview. *AI and Society*, *36*(3), 757–766. https://doi.org/10.1007/S00146-020-01077-W

CABRERA, D. A. A. (2024). Artificial intelligence in justice: Protocols for the submission and assessment of AI-generated digital evidence. *Revista Oficial Del Poder Judicial*, *16*(22), 475–497. https://doi.org/10.35292/ROPJ.V16I22.1018

CADMAN, S., TANNER, C., & PANG, P. C. I. (2025). Humanism strikes back? A posthumanist reckoning with ‘self-development’ and generative AI. *AI and Society*. https://doi.org/10.1007/S00146-025-02339-1

CLÉRO, J. P. (2021). Medicine, Apparatuses, Robots and Intimacy: A Few Ethical and Political Aspects of the Linkage with Machines. *Philosophy and Medicine*, *138*, 103–135. https://doi.org/10.1007/978-3-030-65233-3_6

COOREMAN, H., & ZHU, Q. (2022). Critical Reflections on the Ethical Regulation of AI: Challenges with Existing Frameworks and Alternative Regulation Approaches. *International Symposium on Technology and Society, Proceedings*, *2022-November*. https://doi.org/10.1109/ISTAS55053.2022.10227116

DE ASIS PULIDO, M. (2023). Ethics of Artificial Intelligence applied to judicial process. *Cuadernos Electronicos de Filosofia Del Derecho*, *48*, 60–79. https://doi.org/10.7203/CEFD.48.25389

DI PLINIO, S. (2025). Panta Rh-AI: Assessing multifaceted AI threats on human agency and identity. *Social Sciences and Humanities Open*, *11*. https://doi.org/10.1016/J.SSAHO.2025.101434

DU, H. (2024). Ethical Issues of Artificial Intelligence: Exploring Legal Responsibility, Communication, and Moral Challenges. *AIP Conference Proceedings*, *3194*(1). https://doi.org/10.1063/5.0223437/3325252

ENGELMANN, W., & COSTA, C. S. (2024). The tecnological advancements and the relativization of time and space: impacts on the role of law and function of jurists. *Cadernos de Dereito Actual*, *2024*(24), 256–277. https://doi.org/10.5281/ZENODO.11584721

FARRELL, R., & SHEED-FINCK, A. (2023). Technology and lawyering: On legal practice and value in a digital age. *The Digital Global Condition*, 133–156. https://doi.org/10.1007/978-981-19-9980-2_6

GAMITO, M. C. (2024). Access to justice in times of AI: towards a low-cost justice? *Revista CIDOB d'Afers Internacionals*, *138*, 51–71. https://doi.org/10.24241/RCAI.2024.138.3.51

GAUBIENĖ, N. (2024). Can Artificial Intelligence Engage in the Practice of Law as the Art of Good and Justice? *Filosofija. Sociologija*, *35*(2 Special), 54–63. https://doi.org/10.6001/FIL-SOC.2024.35.2PRIEDAS.SPECIAL-ISSUE.6

KANDEEL, M. E., & ELREFAE, G. (2023). The Impact of Artificial Intelligence on Achieving the Efficiency of Justice "AI & Speedy Justice." *2023 24th International Arab Conference on Information Technology, ACIT 2023*. https://doi.org/10.1109/ACIT58888.2023.10453918

KUDEIKINA, I., & KAIJA, S. (2024). Limits of the use of artificial intelligence in law – ethical and legal aspects. *Vide. Tehnologija. Resursi - Environment, Technology, Resources*, *2*, 188–191. https://doi.org/10.17770/ETR2024VOL2.8016

KULKARNI, S., BHALE, A., SHETTY, V., DHOLE, S., & SARWADE, M. (2024). Exploring the Impact of Artificial Intelligence on Corporate Law. *2024 2nd International Conference Computational and Characterization Techniques in Engineering and Sciences, IC3TES 2024*. https://doi.org/10.1109/IC3TES62412.2024.10877567

LABAJOS, F. A. N., CARHUAMACA, J. D. M., & FLORES, A. B. (2021). Metodología de la investigación científica (MIC) en la educación básica regular. El caso peruano. *Espíritu Emprendedor TES*, *5*(3), 61–82. https://doi.org/10.33970/eetes.v5.n3.2021.277

LAVAZZA, A., BALCONI, M., IENCA, M., MINERVA, F., PIZZETTI, F. G., REICHLIN, M., SAMORÈ, F., SIRONI, V. A., SOSA NAVARRO, M., & SONGHORIAN, S. (2025). Neuralink's brain-computer interfaces: medical innovations and ethical challenges. *Frontiers in Human Dynamics*, *7*. https://doi.org/10.3389/FHUMD.2025.1553905

LEAL, T. D. Z. (2021). Ethics in Artificial Intelligence from the perspective of Law. *Via Inveniendi et Iudicandi*, *16*(2). https://doi.org/10.15332/19090528.6785

LI, Z., & LIU, Y. (2024). Grasping the new characteristics of new sci-tech revolution and its ethical issues for scientific and technological ethics governance. *Kexue Tongbao/Chinese Science Bulletin*, *69*(13), 1677–1680. https://doi.org/10.1360/TB-2023-1281

LIU, J. Z., & LI, X. (2024). How do judges use large language models? Evidence from Shenzhen. *Journal of Legal Analysis*, *16*(1), 235–262. https://doi.org/10.1093/JLA/LAAE009

MARTINHO, A. (2025). Surveying Judges about artificial intelligence: profession, judicial adjudication, and legal principles. *AI and Society*, *40*(2), 569–584. https://doi.org/10.1007/S00146-024-01869-4

MEJÍA-RIVAS, J. (2022). Los paradigmas en la investigación científica. *Revista Ciencia Agraria*, *1*(3), 7–14. https://doi.org/10.35622/J.RCA.2022.03.001

MORE, M., SHAH, S., SHELKE, A., & BEHARE, N. (2024). Ethical and regulatory considerations in AI adoption within legal systems. *Exploration of AI in Contemporary Legal Systems*, 163–186. https://doi.org/10.4018/979-8-3693-7205-0.CH009

NAMAKFOROOSH NAGHI, M. (2000). *Metodología de la investigación*. *1*, 1–525. https://books.google.com/books/about/Metodolog%C3%ADa_de_la_investigaci%C3%B3n.html?hl=es&id=ZEJ7-0hmvhwC

NIRIELLA, M. A. D. S. J. S. (2025). Artificial Intelligence and Sentencing Practices: Challenges and Opportunities for Fairness and Justice in the Criminal Justice System in Sri Lanka. *International Annals of Criminology*. https://doi.org/10.1017/CRI.2024.24

PINTÉROVÁ, D. (2024). Law Regulation of Artificial Intelligence (Perspectives and Challenges). *Pravny Obzor*, *107*(4), 361–383. https://doi.org/10.31577/PRAVNYOBZOR.2024.4.02

RAJENDRA, J. B., & THURAISINGAM, A. S. (2022). Artificial Intelligence and Its Impact on the Legal Fraternity. *Uum Journal of Legal Studies*, *13*(2), 129–161. https://doi.org/10.32890/UUMJLS2022.13.2.6

SEPÚLVEDA, D. P., & MACHUCA, R. C. (2021). Artificial Intelligence and Law. Problems, Challenges and Opportunities. *Vniversitas*, *70*. https://doi.org/10.11144/JAVERIANA.VJ70.IADP

SINGH, H. (2024). Legal aspects of digital ethics in the age of artificial intelligence. *Balancing Human Rights, Social Responsibility, and Digital Ethics*, 144–167. https://doi.org/10.4018/979-8-3693-3334-1.CH005

TULCHINSKII, G. (2023). Subjectivity as Problem and Focal Point for Interdisciplinarity. *Technology and Language*, *4*(4), 75–88. https://doi.org/10.48417/TECHNOLANG.2023.04.07

TVERSKY, A., & KAHNEMAN, D. (1983). Extensional versus intuitive reasoning: The conjunction fallacy in probability judgment. *Psychological Review*, *90*(4), 293–315. https://doi.org/10.1037/0033-295X.90.4.293

VAN NORREN, D. E. (2023). The ethics of artificial intelligence, UNESCO and the African Ubuntu perspective. *Journal of Information, Communication and Ethics in Society*, *21*(1), 112–128. https://doi.org/10.1108/JICES-04-2022-0037

VENKATESH, V., MORRIS, M. G., DAVIS, G. B., & DAVIS, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems*, *27*(3), 425–478. https://doi.org/10.2307/30036540

WANI, S. A., & MANSOOR, S. I. U. (2025). Criminal justice system in the age of artificial intelligence: Exploring rights, risks, and responsibilities in the digital era. *Artificial Intelligence in Peace, Justice, and Strong Institutions*, 67–92. https://doi.org/10.4018/979-8-3693-9395-6.CH004

WEBER, R. H. (2020). Socio-ethical values and legal rules on automated platforms: The quest for a symbiotic relationship. *Computer Law and Security Review*, *36*. https://doi.org/10.1016/J.CLSR.2019.105380

WEN, Z., YANG, D., YANG, Y., HU, J., PARVIAINEN, A., CHEN, X., LI, Q., VANDEUSEN, E., MA, J., & TAY, F. (2025). The path to biotechnological singularity: Current breakthroughs and outlook. *Biotechnology Advances*, *84*. https://doi.org/10.1016/J.BIOTECHADV.2025.108667

WIDŁAK, T. (2025). Pygmalion's Digital Dream: An Outline of Legal-Philosophical Problems of Human Digital Twins in Medical Applications. *Archiwum Filozofii Prawa i Filozofii Spolecznej*, *42*(1), 93–111. https://doi.org/10.36280/AFPIFS.2025.1.93

WINTER, C. K. (2022). The Challenges of Artificial Judicial Decision-Making for Liberal Democracy. *Economic Analysis of Law in European Legal Scholarship*, *14*, 179–204. https://doi.org/10.1007/978-3-031-11744-2_9

YANG, Y. T. (2025). Digital Resurrection and Posthumous Identity: Toward a Cross-Cultural Neurorights Framework. *AJOB Neuroscience*. https://doi.org/10.1080/21507740.2025.2519440

YASSIR, N., & LÓPEZ DE RAMOS, A. (2023). Enseñando Metodología De La Investigación Científica Tecnológica Y Humanística Con Flipped Learning. *Experiencias En Flipped Learning*. https://doi.org/10.47300/978-9962-738-15-2

ZAFAR, A. (2024). Balancing the scale: navigating ethical and practical challenges of artificial intelligence (AI) integration in legal practices. *Discover Artificial Intelligence*, *4*(1). https://doi.org/10.1007/S44163-024-00121-8

ZHANG, J., & MOREIRA, J. I. (2023). Promoting Trustworthiness in the Application of Artificial Intelligence in the Judiciary: The Intersection of Media Communication, Court Decisions, and Public Trust. *International Journal of Criminal Justice Sciences*, *18*(2), 481–496. https://doi.org/10.5281/ZENODO.4756330

ZUCKERMAN, A. (2020). Artificial intelligence in the administration of justice. *The Civil Procedure Rules at 20*, 291–304. https://doi.org/10.1093/OSO/9780198863182.003.0020

Authors' Contribution

Both authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

How to cite this article (APA):

Salcedo, E. del R. R., Bonilla, C. A. M., Vejar, L. del C. C., & Freire, P. V. A. ARTIFICIAL INTELLIGENCE AND TRANSHUMANISM: ETHICAL CHALLENGES IN HUMAN ENHANCEMENT. Veredas Do Direito, e223139. https://doi.org/10.18623/rvd.v22.n2.3139