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THE JUDICIARY AND ARTIFICIAL INTELLIGENCE: THE BOSNIA AND HERZEGOVINA CRIMINAL LAW PERSPECTIVE

This pilot study explores the status and perception of artificial intelligence (AI) within the judicial community of Bosnia and Herzegovina. Due to the lack of documented experience with AI in criminal proceedings, the research aimed to assess both the potential and acceptability of its application. The central hypothesis posited that members of the judicial community hold negative attitudes toward the use of AI in criminal justice. To test this, a tailored measurement instrument was developed and distributed among legal professionals. Responses were analysed using descriptive statistics, focusing on frequencies and percentages across four thematic categories. The results confirmed the hypothesis: members of the judicial community have negative attitudes regarding the application of artificial intelligence in criminal proceedings. These findings highlight a significant attitudinal barrier to the integration of AI technologies in legal practice. The study serves as a foundation for understanding institutional readiness and opens space for dialogue between science and practice. It is expected to encourage further research and foster informed debate on the ethical, procedural, and normative implications of AI in justice systems, ultimately contributing to better preparation for its responsible implementation in Bosnia and Herzegovina.[****]

Keywords: artificial intelligence, criminal procedure, positions of the judicial community, EU AI Act, Bosnia and Herzegovina

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1. INTRODUCTION

The use of artificial intelligence (AI) in everyday life, and particularly in the functioning of the judicial system, has sparked intense debate and continues to do so. Some believe that the use of AI can be useful in a way that objectifies certain decisions, standardises practices, speeds up procedures, etc. On the other hand, there are concerns that the use of AI could lead to biased outcomes, discrimination, violations of various procedural rights, and that it could thus pose a threat to the entire system.

Criminal proceedings in Bosnia and Herzegovina are conducted according to the criminal procedure laws of Bosnia and Herzegovina, the Federation of Bosnia and Herzegovina, the Republic of Srpska, and the Brčko District. These laws, which have been in force since 2003, prescribe the use of modern technologies, especially in special investigative actions, as well as in conducting conventional investigative actions.

When discussing AI in the context of the criminal procedure in Bosnia and Herzegovina, it is important to note that significant obstacles to its more extensive use include material constraints, a lack of devices and software necessary for its implementation, as well as the unpreparedness and unfamiliarity of members of the judicial community with its use.

Previous experiences with the application of AI in the criminal proceedings of Bosnia and Herzegovina have not been available to the authors of this research, and it is possible that such experiences do not exist. Hence, this study aims to examine the possibilities and acceptability of AI among the judicial community in Bosnia and Herzegovina.

The goal of this research is to analyse the attitude of the judicial community in Bosnia and Herzegovina towards the application of AI in criminal proceedings and to identify any underlying causes for these attitudes.

To achieve this defined research goal, we intend to test our hypothesis, which we have formulated as follows: members of the judicial community hold negative attitudes regarding the application of AI in criminal proceedings.

2. GENERAL CONSIDERATIONS ON AI AND AI IN CRIMINAL PROCEEDINGS

The introduction of AI into the field of criminal justice offers exceptional opportunities for enhancing institutional efficiency, yet it also poses significant risks to fundamental human rights and the rule of law. For this technology to be used effectively, a conceptual understanding is required, and this section aims to facilitate this by presenting AI's historical development, its diverse

definitions, and an analysis of the current state and challenges of its implementation within criminal justice processes.

2.1. Conceptual Development and Definitions of Artificial Intelligence

The beginning of the general discussion on AI dates back to 1950 when Alan Turing published a paper on the creation of thinking machines, while John McCarthy attempted to define AI as early as 1956. The momentum in the development of AI is linked to 2010, when deep learning and large volumes of data came under the spotlight.[1]

There are indeed many definitions of AI in both foreign and domestic literature. The reason for this probably lies in the fact that "AI today encompasses a whole spectrum of technologies and, through its wide application, has deeply infiltrated every aspect of social interaction",[2] meaning that it is impossible to portray all the complex goals it aims to achieve within a single definition.[3]

However, for the purposes of this paper and for a better understanding of the subject and the issues at hand, it is necessary to present some available definitions. According to Russell and Norvig AI is the field of research and the creation of machines capable of activities that, if performed by humans, would be considered intelligent.[4]

Stipaničev, Šerić, and Braović[5] avoid providing a clear definition of AI but highlight the existence of two approaches to AI research: a strong intelligence approach that aims to develop a machine that will have human-like capabilities, and a weak AI approach that is developed to solve a specific problem in the way a human would.

Sheikh, Prins and Schrijvers also address the challenge of defining AI and the complexity of this task, presenting different definitions and approaches that should be taken into account. They advocate for an open approach and believe that the definition of AI will change over time. An interesting defini-

[1] Rigano, C., Using AI to Address Criminal Justice Needs, *NIJ Journal*, No. 280, 2019, p. 4.

[2] Aljinović, N., AI in the Criminal Justice System with an Emphasis on the Situation in the Republic of Croatia, in: Ribeiro, H.; Tomic, D.; Klopotan; I. (eds), 108th *International Scientific Conference on Economic and Social Development – Financial Literacy for Economic and Social Development*, Aveiro, 21–22, 2024, p. 66.

[3] Putica, M., Umjetna inteligencija: dvojbe suvremenoga razvoja, *Hum: časopis Filozofskog fakulteta Sveučilišta u Mostaru*, Vol. 13, No. 20, 2018, p. 199.

[4] Russell, S.; Norvig, P., *Artificial Intelligence: A Modern Approach*, Pearson, 2020, p. 1.

[5] Stipaničev, D.; Šerić, Lj.; Braović, M., *Uvod u umjetnu inteligenciju*, FESB, Univerzitet u Splitu 2021, p. 15.

tion they adopted from the High-Level Expert Group on AI (AI HLEG) of the European Commission describes AI as "systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals".[6]

The issue of defining AI has also been addressed by the Organisation for Economic Co-operation and Development (OECD). This organisation adopted the Council Recommendation on Artificial Intelligence in 2019.[7] In Article I, defining the basic terms used in the Recommendation, AI is defined as: "... a machine-based system that, for explicit or implicit objectives, infers from the received input data how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments".

Later in this part of the Recommendation, the OECD recommends the following principles for AI implementation: inclusive growth, sustainable development and well-being, respect for the rule of law, human rights and democratic values, transparency and explainability, robustness, security and safety, and accountability.

According to the OECD report, "How Can We Leverage AI to Solve Justice Problems for All?" (2025), AI can help resolve judicial problems if used for: scaling up mediation and legal aid, personalising legal education, reducing procedural barriers, and mitigating bias in decision-making. The same report warns that a lack of transparency and explainability can jeopardise the right to a fair trial, particularly in criminal proceedings where an individual's freedom and dignity are at stake.[8]

The European Parliament, when adopting the AI Act in 2021, recognised that "AI is a fast-evolving family of technologies that contributes to a wide array of economic, environmental and societal benefits across the entire spectrum of industries and social activities".[9] The European Parliament highlighted in the same text that the application of AI "requires regulatory oversight and a safe and controlled space for experimentation, while ensuring respon-

[6] Sheikh, H.; Prins, C.; Schrijvers, E., *Mission AI: The New System Technology*, Springer, 2023, p. 16.

[7] OECD, Recommendation of the Council on Artificial Intelligence (OECD Legal Instruments, OECD/LEGAL/0449, 2019), <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449> accessed 5 November 2025.

[8] Zainab, M. and others, How Can We Leverage AI to Solve Justice Problems for All? *OECD.AI*, 2025, <https://oecd.ai/en/wonk/how-can-we-leverage-ai-to-solve-justice-problems-for-all> accessed 5 November 2025.

[9] Regulation of the European Parliament and of the Council laying down harmonised rules on AI (AI Act) and amending certain Union legislative acts (2021), <https://eur-lex.europa.eu/resource.html?uri=cellar:e0649735-a372-11eb-9585-01aa75ed71a1.0001.02/DOC_1&format=PDF> accessed 15 January 2025, p. 18.

sible innovation and integration of appropriate safeguards and risk mitigation measures".[10]

Looking at these definitions, they all share a common understanding of AI as the process of studying, designing, and building intelligent tools to achieve desired goals. The various concepts, approaches, and numerous different definitions of AI demonstrate the great interest of the professional and scientific public in this novelty that is increasingly penetrating every aspect of private and social life.

Regulation (EU) 2024/1689 represents the first comprehensive legislative framework at the European Union level regulating the development, placement, and use of AI systems. In Article 3, paragraph 1 of this Regulation, artificial intelligence is defined as "a software system that is developed using one or more of the techniques and approaches listed in Annex I, and which can, for human-defined objectives, generate outputs such as predictions, recommendations, or decisions influencing the physical or virtual environments".[11] This definition is technologically inclusive and functionally oriented. It encompasses various development methods, such as machine learning, logical reasoning, and statistical approaches, and is focused on the system's ability to influence the environment through its outputs.

Among other things, Regulation (EU) 2024/1689 introduces the category of high-risk AI systems used in areas such as law enforcement, migration management, education, employment, and access to essential services. These systems are subject to stricter requirements: mandatory documentation, explainability, human oversight, and registration in an EU database.[12] The model provided in the Regulation is horizontal and normatively binding and is aimed at protecting fundamental rights.[13] Regarding the use of AI in criminal law, particularly in biometric identification, predictive analytics, and automated decision-making concerning detention, the EU approach insists that AI can only be a consultative tool. When AI is used in these situations, human control of the process is mandatory, given that the freedom and dignity of the individual are being decided upon.

The justification for categorising AI systems used in criminal procedure as high-risk, as provided in the Regulation, can best be understood through two key comparative cases. These are the AI system known as COMPAS and the

[10] *Ibid*, p. 33.

[11] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonized rules on artificial intelligence (Artificial Intelligence Act) and amending certain Union legislative acts [2024] OJ L168/1.

[12] *Ibid*., Annex III: High-Risk AI Systems Referred to in Article 6(2)

[13] Bertolini, A., The EU Artificial Intelligence Act: A Risk-Based Approach to Regulation and Its Implications for Legal Theory, *European Journal of Risk Regulation*, Vol. 15, No. 4: Special Issue on Delegated Rulemaking in the European Union 15 Years Post-Lisbon, and Symposium on the Challenges of Cybersecurity in the Health Sector, 2024.

System Risico Indicate (SyRI), which demonstrate different approaches and challenges in regulating high-risk AI systems.

In the case of *State v. Loomis*, the Wisconsin Supreme Court concluded that the use of the COMPAS AI tool (risk assessment for recidivism during sentencing) was lawful but pointed out that it should not be used as the sole basis for a decision. It was noted that this tool has shortcomings due to limited transparency and the inability to verify the criteria used for risk assessment.[14] This ruling suggests that the right to a fair trial may be jeopardised if decision-making cannot be explained.

On the other hand, the Dutch system SyRI (System Risk Indication—identification of the risk of social fraud) was found by the District Court of The Hague to violate the right to privacy under Article 8 of the European Convention on Human Rights. The Court assessed that the algorithmic data processing was non-transparent, massive, and lacked clear procedural guarantees.[15] This judgment insists on the need for proportionality and democratic oversight over the use of AI.

The development of AI has become a key topic for many authorities around the world. Decision-makers and those responsible for economic growth and the improvement of public services see significant potential in AI, and many national AI strategies have been developed. Every action taken by government organisations triggers a response from the non-governmental sector as a corrector of public authorities. In terms of AI usage, the non-governmental sector has actively insisted on the introduction of a regulatory framework, the protection of vulnerable groups, the legality of its application, and similar issues. AI is expanding and has so far found its place in education, healthcare, and other areas of human needs, increasingly impacting the nature of many professions as people need to adapt to it by acquiring new knowledge and skills.[16]

AI has also found its place in the judiciary in general, and more importantly for the research question and focus of this study, in the criminal judiciary. The application of AI tools in the judiciary aims to enhance the efficiency and quality of judicial work by accelerating the proceedings conducted before the courts.

This process is accompanied by numerous legal and ethical questions to which the professional and scientific community still lacks answers, leading many AI tools to be adopted and used gradually and cautiously.[17] The inevi-

[14] *State v. Loomis* 881 N.W.2d 749 (Wis. 2016).

[15] District Court of The Hague, 5 February 2020, Case No. C/09/550982 / HA ZA 18-388 (SyRI case).

[16] Sheikh et. al. (n 6) p. 48.

[17] Đurđević, Z.; Ivičević Karas, E., Uporaba umjetne inteligencije u hrvatskom kaznenom postupku: postojeće stanje i perspektive, *Hrvatski ljetopis za kaznene znanosti i praksu*, Vol. 30, No. 2, 2023, p. 229.

tability of the continuation and intensification of this process is demonstrated by research conducted in 2013 in the United States, which showed that of approximately 700 analysed professions, 47% are at high risk of being taken over by AI tools. As an interesting fact for this paper, the study indicated that only about 3.5% of legal jobs are expected to be taken over by AI by 2033, while the forecasts for judges and other judicial officials are significantly less favourable, suggesting that around 40% of their jobs may be affected.[18]

The use of AI in the judiciary dates back to the 1960s, when discussions began about using computers for the analysis and prediction of court decisions. Even then, it was believed that computers could not only analyse laws but that researchers were also debating the use of computers for predicting judicial decisions.[19] As these authors note, legal professionals are the leaders in the use of AI tools in the judiciary, which inevitably leads to the greater familiarity of judges and prosecutors with these tools. They currently assess the state of AI use in the judiciary as being in the initial phase. The European Commission categorises the use of AI in courts as a high-risk activity in its AI Regulation.[20]

2.2. Current Implementation of AI in Criminal Justice

AI is significant in the field of law enforcement because it helps to increase speed, accuracy, objectivity, reduce arbitrary decision-making, and enhance impartiality in various decision-making scenarios. The available literature indicates that AI is currently most used in criminal proceedings for the following purposes:

- Work planning of law enforcement agencies – AI tools analyse data on past crime and can predict future hotspots of criminal activities. This further helps police agencies to better organise themselves and utilise available resources in the fight against crime.[21]
  AI technologies are increasingly used by law enforcement agencies to optimise operational planning and resource allocation. By analysing historical crime data, AI systems can identify spatial and temporal patterns, enabling predictive models that forecast future hotspots of cri-

[18] Frey, C. B.; Osborne, A. M, The Future of Employment: How Susceptible Are Jobs to Computerization? 2013, pp. 38 and 41, <https://oms-www.files.svdcdn.com/production/downloads/academic/The_Future_of_Employment.pdf> accessed 17 January 2025,

[19] Williams, G. Y. and others, Perceptions of Justice by Algorithms, *AI and Law*, Vol. 31, 2023, p. 269.

[20] Regulation (AI Act), p. 28.

[21] Kumar, A.; Sharma, V.; Kumar, S., AI in the Criminal Justice, *Journal of Forensic Science & Criminology*, Vol. 12, No. 1, 2024, pp. 2–3,

minal activity. This allows police departments to deploy personnel more efficiently, prioritise patrol routes, and anticipate high-risk zones.[22] As noted by INTERPOL and UNICRI in their joint "AI Toolkit for Responsible Innovation in Law Enforcement", such systems have already been applied in automatic patrol scheduling, emergency call triage, and strategic deployment planning.[23]

However, the use of predictive policing tools raises important concerns about bias, transparency, and accountability. The Policing Project highlights that while AI can assist in identifying potential perpetrators or victims, tracking movements, and detecting anomalies, the effectiveness and fairness of these tools remain contested.[24] It is therefore essential that law enforcement agencies adopt AI systems in line with human rights standards and ethical safeguards, ensuring that algorithmic decisions do not reinforce discriminatory practices or undermine public trust.

- Facial recognition and biometric identification – Facial recognition technology (FRT) represents one of the most controversial applications of AI in criminal justice. Facial recognition includes two different types of technologies: retrospective or post-remote facial recognition and live or real-time facial recognition.[25] The legal framework of the European Union generally prohibits real-time remote biometric identification in public places for law enforcement purposes, subject to three strict exceptions. These exceptions, provided they are laid down in national law, relate to: the search for victims of specific criminal offences; the prevention of a concrete, actual, and immediate terrorist threat; the detection, location, identification, or apprehension of a person suspected of certain serious criminal offences.[26]

  While it offers significant potential for identifying suspects and enhancing investigative efficiency, its use raises serious concerns regarding

[22] Innefu Labs, Predictive Policing: How AI and Analytics Are Transforming Crime Prevention, 2024, <https://innefu.com/predictive-policing-how-ai-and-analytics-are-transforming-crime-prevention/> accessed 12 October 2025.

[23] INTERPOL and UNICRI, AI Toolkit for Responsible Innovation in Law Enforcement, June 2023, pp. 5–9, <https://www.interpol.int/en/How-we-work/Innovation/Artificial-Intelligence-Toolkit> accessed 12 October 2025.

[24] The Policing Project, How Policing Agencies Use AI, 2024, <https://www.policingproject.org/ai-explained-articles/2024/9/6/how-policing-agencies-use-ai> accessed 12 October 2025.

[25] See further: Tracol, X., Facial Recognition and the Rule of Law: A European Perspective (2024) *Technology and Regulation* <https://techreg.org/article/view/19581/25091> accessed 5 November 2025.

[26] Jasserand, C., The European Regulatory Frameworks for Facial Recognition: From the LED to the AI Act, *Technology and Regulation*, Vol. 6, No. 1, 2025, pp. 85–99.

privacy, discrimination, and procedural fairness. As noted by Novokmet, Tomičić, and Vidaković, the deployment of FRT within EU criminal justice systems must be accompanied by strict legal safeguards to prevent arbitrary or disproportionate interference with fundamental rights. The authors emphasise the fragmented regulatory landscape across EU Member States and advocate for harmonised standards that ensure transparency, accountability, and effective oversight of biometric surveillance technologies.[27]

- Analysis of evidence – AI tools can assist in the preparation and evaluation of large volumes of data, particularly images, recordings, and similar evidence. Unlike humans analysing the same evidence, AI can identify trends and correlations between recognised data, improving efficiency and accuracy. Additionally, during the analysis of evidence, AI tools speed up this process, making it more precise, less biased, and reducing human errors. Various tools have been developed for these purposes, which we will not elaborate on further as they are not the subject of this research.[28]
  The increasing use of AI-generated data and machine-driven evaluations in criminal proceedings has raised important questions about the admissibility, reliability, and procedural treatment of such evidence. Gless provides a comparative analysis of how different legal systems approach machine evidence, highlighting the challenges posed by the lack of human testimony, the opacity of algorithmic processes, and the need to preserve trust in judicial fact-finding.[29]
  Building on these concerns, Grimm, Grossman, and Cormack propose a structured legal framework for evaluating AI-generated evidence in criminal trials. They emphasise that admissibility must be grounded in two core criteria: validity, whether the AI system accurately measures or predicts what it claims, and reliability, whether it performs consistently under similar conditions.[30] Their analysis highlights the procedural risks posed by algorithmic opacity, lack of explainability, and potential bias, all of which must be addressed to ensure compliance with evidentiary standards and due process guarantees.

[27] Novokmet, A.; Tomičić, Z.; Vidaković, I., Facial Recognition Technology in EU Criminal Justice—Human Rights Implications and Challenges, *EU and Comparative Law Issues and Challenges Series* (ECLIC), Vol. 7, 2023, pp. 525–570.

[28] Kumar et al. (n 21) pp. 3–4.

[29] Gless, S., AI in the Courtroom: A Comparative Analysis of Machine Evidence in Criminal Trials, *Georgetown Journal of International Law* 51(2), 2020, pp. 195–254, pp. 198–205 and 230–235.

[30] Grimm, W. P.; Grossman, R. M.; Cormack, V. G., Artificial Intelligence as Evidence, *Northwestern Journal of Technology and Intellectual Property*, Vol. 19, No. 1, 2021, pp. 9–106, at pp. 15–22 and 85–90.

- Risk assessment – This is a very important activity for evaluating recidivism in criminal offences, especially during the decision-making stages of detention, trial, sentencing, and parole. AI tools are increasingly used in these assessments as they are more effective, quicker in processing large amounts of data, and provide timely information to decision-makers in the aforementioned legal situations. Compared to humans, AI is more consistent in risk assessments, and by identifying high-risk individuals, it encourages the adoption of preventive measures to prevent future crimes.[31]
  Recent academic literature has paid particular attention to the use of predictive AI systems by law enforcement authorities, especially within the European Union. Vidaković emphasises that while these systems may improve operational efficiency, they raise complex legal concerns regarding transparency, accountability, and the protection of fundamental rights. He argues that their deployment must be strictly regulated and aligned with EU legal standards to avoid disproportionate or discriminatory outcomes.[32]
- Legal research – This is a very important aspect of the legal profession, particularly when identifying relevant case law. The use of AI tools in this area simplifies the legal research process and provides invaluable opportunities in terms of enhancing efficiency, accuracy, and predictability. AI can process large amounts of data and make it available to the user in a short time, assisting in case preparation and strategy selection. Based on these studies, AI tools can also predict the potential outcome of a case, which will help in making important decisions in the process. The integration of artificial intelligence into legal research has significantly transformed traditional methodologies, shifting from manual document review to intelligent systems capable of semantic analysis and contextual retrieval. Modern AI tools now employ natural language processing (NLP) and machine learning to identify relevant precedents, statutes, and doctrinal commentary with remarkable precision.[33] Ashley explains how case-based reasoning and statistical approaches are used to predict legal outcomes, enabling lawyers to refine litigation strategies and better understand patterns in judicial reasoning.[34]

[31] For more detail, see Mayowa Farayola, M., Fairness of AI in Predicting the Risk of Recidivism: Review and Phase Mapping of AI Fairness Techniques, *ARES 2023: The 18th International Conference on Availability, Reliability and Security*, Benevento, 2023.

[32] Vidaković, I., Uporaba prediktivnih sustava umjetne inteligencije namijenjenih tijelima kaznenog progona – perspektiva Europske unije, *Hrvatski ljetopis za kaznene znanosti i praksu*, Vol. 31, No. 1, 2024, 2024, pp. 93–126, pp. 101-106 and 123–125.

[33] Ashley, D. K., *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age*, Cambridge University Press, 2017, pp. 210–213.

[34] *Ibid*. pp. 107–126.

However, as Surden cautions, the predictive capacity of AI systems in legal contexts remains probabilistic and depends heavily on data quality, algorithmic transparency, and explainability.[35] He emphasises that the legal validity of such tools must be assessed through the lens of reliability and procedural safeguards. While AI can significantly enhance the efficiency of legal research, its application must be accompanied by clear standards that protect the integrity of legal proceedings and ensure that human judgment remains a central component of legal decision-making.

- Fraud detection – With its sophisticated techniques and applications, AI represents a powerful tool in the fight against fraud. Currently, these tools are primarily used in the financial sector, but their expansion into other areas of life and work is expected.[36]

  AI-driven fraud detection systems rely on machine learning (ML), deep learning (DL), and big data analytics to identify suspicious patterns in real time. Unlike traditional rule-based systems, which often struggle to keep pace with evolving fraud tactics, AI models continuously learn from new data and adapt to emerging threats.[37] IBM reports that financial institutions increasingly deploy AI to monitor transactional behaviour, flag anomalies, and prevent unauthorised activities such as phishing, identity theft, and money laundering.[38] These systems can detect unusual spending patterns, rapid account changes, or geographically inconsistent transactions – often faster and more accurately than human analysts.

  Recent research also highlights the growing role of natural language processing (NLP) in fraud detection. NLP enables systems to analyse unstructured data such as emails, chat logs, and social media interactions to uncover fraudulent intent or manipulation attempts.[39] Moura and others emphasise that while technical development in this field is advan-

[35] Surden, H., Machine Learning and Law, *Washington Law Review* 89, 2014, pp. 87-115, pp. 102–106.

[36] For more, see Bello, O. A.; Komolafe O., AI in Fraud Prevention: Exploring Techniques and Applications, Challenges and Opportunities, *Computer Science & IT Research Journal,* Vol. 5 No. 6, 2024, pp. 1505–1520; and Odeyemi, O. and others, Reviewing the Role of AI in Fraud Detection and Prevention in Financial Services' (2024) *International Journal of Science and Research Archive,* Vol. 11, No. 01, 2024, pp. 2101–2110.

[37] PA Global, AI in Financial Fraud Detection: Benefits, Challenges, and Future Trends, 2025, <https://pa-global.com/insights/ai-financial-fraud-detection-benefits-challenges-trends/> accessed 12 October 2025.

[38] IBM, AI Fraud Detection in Banking, 2024, <https://www.ibm.com/think/topics/ai-fraud-detection-in-banking> accessed 12 October 2025.

[39] *Ibid*.

cing rapidly, ethical and regulatory oversight remains limited, especially in cross-border financial operations.[40] As AI expands into sectors like healthcare, insurance, and public administration, it is essential to establish robust governance frameworks that ensure transparency, accountability, and protection of vulnerable groups.

3. AI IN CRIMINAL PROCEEDINGS IN BOSNIA AND HERZEGOVINA

The specific constitutional structure of Bosnia and Herzegovina has significantly influenced the organisation and jurisdiction of its judicial system. This system operates at the level of the state, two entities (the Federation of Bosnia and Herzegovina and the Republika Srpska), and the Brčko District. Each of these subsystems possesses its own substantive, procedural, organisational, and executive legislation.[41]

Criminal proceedings are conducted in accordance with the criminal procedure laws of Bosnia and Herzegovina, the Federation of Bosnia and Herzegovina, the Republika Srpska, and the Brčko District. These laws regulate the course of proceedings, the rights and obligations of participants, and their mutual relations. Their primary goal is to ensure that innocent individuals are not convicted, while perpetrators of criminal offences are sanctioned in accordance with the law and through legally prescribed procedures.[42]

Since 2003, the applicable procedural laws have provided for the use of modern technologies, particularly in the context of special investigative actions, but also within conventional investigative procedures. It is important to emphasise that most of these technologies do not qualify as artificial intelligence in the strict sense, but rather represent technically advanced tools that enable more efficient data collection and processing.

Special investigative actions are regulated by Article 116 of the Criminal Procedure Code of Bosnia and Herzegovina and corresponding provisions in the entity and district-level laws. In the context of potential algorithmic appli-

[40] Moura, L.; Barcaui, A.; Payer R., AI and Financial Fraud Prevention: Mapping the Trends and Challenges Through a Bibliometric Lens, *Journal of Risk and Financial Management* Vol. 18, No. 6, 2025, pp. 5–9.

[41] For more, see Sijerčić-Čolić, H.; Mahmutović, Dž.; Smailagić, N., Bosnia and Herzegovina, in: Verbruggen, F.; Franssen, V.; Colucci, M.; Blanpain, R.; Hendrickx, F. (eds), *International Encyclopaedia of Laws: Criminal Law*, Kluwer Law International, 2022, pp. 27–31.

[42] Criminal Procedure Code of Bosnia and Herzegovina (Official Gazette of Bosnia and Herzegovina 3/2003, 32/2003 – corr., 36/2003, 26/2004, 63/2004, 13/2005, 48/2005, 46/2006, 29/2007, 53/2007, 58/2008, 12/2009, 16/2009, 53/2009, 93/2009, 72/2013 and 65/2018).

cations, particular emphasis is placed on actions such as surveillance and technical recording of telecommunications, access to computer systems, computer data matching, surveillance of premises, and covert monitoring and recording of individuals, vehicles, and related objects. Although these procedures rely on digital technologies, their application does not yet involve autonomous decision-making or analytical functions characteristic of AI systems.[43]

Within conventional investigative actions, the most used technology is audio and audiovisual recording, regulated by Article 155 of the Criminal Procedure Code of Bosnia and Herzegovina and analogous provisions in other procedural laws. This technology is mandatory in procedures such as the questioning of suspects (Article 79), witness hearings (Article 90), crime scene inspections and reconstructions (Article 94), as well as during main hearings (Articles 241 and 253).

The partial integration of algorithmic methods into criminal proceedings can be observed through the expert examination process, which is conducted in accordance with the professional standards of the relevant field. If software tools incorporating elements of machine learning are used in expert analysis, one may speak of the indirect application of AI in the procedural context. However, such practices are neither systematically documented nor normatively recognised.

In practice, particularly before the Court of Bosnia and Herzegovina, witness hearings during main trials are occasionally conducted via video conferencing when circumstances require. Although this practice is not explicitly regulated by law, it represents an example of the judiciary's adaptation to modern communication technologies.

When discussing the potential application of artificial intelligence in criminal proceedings in Bosnia and Herzegovina, it is necessary to highlight significant material barriers—namely, the lack of appropriate equipment, software solutions, and institutional readiness. Consequently, members of the judicial community are often unfamiliar with the possibilities and are untrained in the use of AI tools.

3.1. Interim Conclusion

Bearing all this in mind, as well as the results of the research whose presentation follows later in this article, it can be concluded that the application of AI in the Bosnian and Herzegovinian judiciary is currently characterised by institutional barriers, a lack of technical equipment, and the absence of a

[43] For more, see Kavgić, A.; Mahmutović, Dž.; Gurda V., *Posebne istražne radnje u krivičnom postupku*, Dobra knjiga, Sarajevo, 2022, pp. 61–128.

regulatory framework. The authors of this paper have not found specific legal initiatives that would regulate the use of AI in criminal proceedings.

Consequently, the following steps could serve as a solid basis for building a legally sustainable and ethically responsible system for the application of AI in the criminal judiciary of Bosnia and Herzegovina:

- The development of a national strategy for the application of AI in the judiciary, in line with international standards.
- Mandatory educational programmes for judges, prosecutors, and expert associates, focusing on the ethics, explainability, and legal accountability of algorithmic systems.
- Normative recognition of AI as a procedural subject in criminal proceedings, with clearly defined boundaries for its use and responsibility.
- The establishment of an independent supervisory body for the evaluation of algorithmic tools used in judicial institutions.

Previous experiences regarding the application of artificial intelligence in criminal proceedings in Bosnia and Herzegovina were not available to the authors of this research, and it is possible that such practices have not yet been developed. Therefore, an empirical study was conducted, presented in the following section of this paper, with the aim of mapping institutional perceptions and identifying the potential for the future application of AI in the domestic judicial context.

4. EMPIRICAL RESEARCH ON THE ATTITUDES OF THE JUDICIAL COMMUNITY IN BOSNIA AND HERZEGOVINA REGARDING AI IN CRIMINAL PROCEEDINGS

In the context of increasingly intense discussions on the digitalisation of the judiciary, this section offers an empirical contribution to understanding institutional perceptions of AI in criminal proceedings. The focus is on analysing the attitudes of key actors within the judicial system: judges, prosecutors, and lawyers, with the aim of mapping levels of awareness, openness to innovation, and identifying potential normative and operational barriers. The section covers the methodological framework of the research, sample characteristics, the construction of a measurement instrument, techniques of data collection and processing, and a comparative analysis of the results.

4.1. Methodology

A precise explanation of the methodology is essential for ensuring the transparency and reliability of the research. In the context of institutional perceptions of AI in criminal proceedings, methodological elements demonstrate

how data were collected and analysed, thereby securing the scientific validity of the findings. This section presents the methodological framework of the research conducted among members of the judicial community in Bosnia and Herzegovina. It includes a description of the sample, the measuring instrument, the method of implementation, and data processing, serving as a foundation for understanding the results.

4.1.1. Sample of Respondents

The sample used in this study consisted of 64 respondents, the first purposive subsample consisting of 25.0% (N=16) judges, 21.9% (14) prosecutors, and 53.1% (N=34) lawyers.

Regarding the gender structure of the sample, it included 54.7% (N=35) males and 45.3% (N=29) females. The age of the respondents ranged from 27 to 70 years, with an average age of 46.61.

In terms of education, 65.6% (N=42) of the sample had a university degree, 29.7% (N=19) had a master's degree, and 4.7% (N=3) had a doctoral degree.

As for work experience in the judiciary, the respondents had work experience ranging from 1 to 45 years, with an average judicial experience of about 18 (17.84) years.

4.1.2. Measuring Instrument

For the purposes of the research on AI in criminal proceedings, a specially constructed measuring instrument called "Attitudes of the Judicial Community Regarding the Application of AI in Criminal Proceedings" was used. This instrument served to assess the awareness of members of the judicial community about AI in general and in criminal proceedings specifically, as well as their understanding of the tasks and the potential application of AI in criminal proceedings. The foundation for its construction was found in a study titled "Attitudes and Perceptions Regarding Algorithmic Judicial Judgement: Barriers to Innovation in the Judicial System?" presented by Pérez Domínguez and Pere Simón[44] in November 2023. In addition to the variables contained in this basic measuring instrument, after consultations with other researchers, some variables were removed, some were reformulated, and others were added.

[44] Pérez Domínguez, S.; Pere Simón C., Attitudes and Perceptions Regarding Algorithmic Judicial Judgement: Barriers to Innovation in the Judicial System? *IDP Revista de Internet Derecho y Política*, No. 39, 2023.

The questionnaire consists of five parts. The first part includes modal variables, which encompass data on the sample of respondents presented earlier.

The remaining parts of the questionnaire consist of dependent variables that examined the attitudes of members of the Bosnia and Herzegovina judicial community regarding AI in criminal proceedings. The variables are divided so as to achieve the objective and test the hypotheses of this research: the first part includes seven variables related to the understanding of AI in the judiciary in general (AI); the second part includes 11 variables related to the understanding and attitudes regarding the application of AI in criminal proceedings (AICP); the third group of dependent variables consists of 13 variables that essentially represent tasks performed in the judiciary, which were presented to respondents to express their opinion on whether AI can be used to perform them but only as a consultative tool (AICPCT); and finally, the fourth group of variables presented the same tasks but this time with the intention of verifying the respondents' opinions on the possibility of AI performing them independently and in their entirety (AICPI).

The dependent variables were analysed using assessment scales with varying numbers of statements for which respondents selected one acceptable answer. Responses were arranged according to a Likert-type scale, consisting of 5 categories.

4.1.3. Research Methodology and Data Processing

The research was conducted in three phases. *The first phase* took place in the second half of 2024 and involved a review of literature related to AI in general and AI in criminal proceedings, a theoretical study of the problem, an analysis of previous research related to the issue, and preparation of a measuring instrument. *The second phase* involved data collection – document analysis and surveying respondents. The duration of this phase was limited, lasting from the beginning of November 2024 to the end of that year.

The distribution of the measuring instrument to potential participants in the research was carried out via the free Google Forms platform. The prepared measuring instrument was sent to previously collected email addresses available through various judicial web portals, individual courts, prosecutor's offices, and bar associations across Bosnia and Herzegovina. The link to the measuring instrument was sent to nearly 2,500 email addresses. During this phase of the research, reminders were sent multiple times to request responses, but ultimately only 67 responses were received. The survey was conducted anonymously to ensure that the results were as objective as possible.

The third phase, following the data collection, involved statistical data processing and interpretation of the obtained results. The research data were

processed using descriptive analysis. First, the frequency distribution and percentage of responses for all statements were determined based on the obtained data. Finally, a comparative analysis of the research results conducted by Pérez Domínguez & Pere Simón in 2023 was carried out. The data collected during the research were processed using the SPSS software package.

4.2. Research Results and Discussion

To gain an insight into the research results, to draw conclusions about the research question and the subject of the research, and the importance of this research, data on the distribution of frequencies and percentages for individual variables are presented below. Subsequently, a comparative analysis was conducted between this and the previously mentioned research (Pérez Domínguez & Pere Simón) for the variables on which respondents held predominantly positive and negative attitudes.

4.2.1. Frequency distribution and percentages of the research results on AI in the judiciary in general

Table 1 shows the frequency distribution and percentages of responses in relation to the level of agreement among members of the judicial community with the statements for variables related to knowledge of AI in the judiciary in general (AI).

Respondents were divided in terms of familiarity with the use of tools in the judicial system. The majority of respondents (53.1%) expressed concern that AI in the judiciary could be manipulated and abused, and even more significant were the views (73.5%) that the application of AI in the judiciary could raise many ethical issues. The views of members of the Bosnian and Herzegovina judicial community are encouraging, as more than half (79.7%) believe that training on the use of AI in the judiciary in general is needed. Notably, 78.20% of respondents agreed with the statement: "I am willing to learn and adapt my work to the use of AI in case management". These results can be a significant initial impetus for training institutions within the judicial community to start developing training programmes and to implement them as soon as possible.

Table 1.

FREQUENCY DISTRIBUTION AND RESPONSE PERCENTAGES FOR THE AI VARIABLE

AI	Strongly disagree		Somewhat disagree		Neither agree nor disagree		Somewhat agree		Strongly agree	
	f	%	f	%	f	%	f	%	f	%
I am familiar with the use of AI tools in the judicial system.	**24**	**37.5**	**10**	**15.6**	15	23.4	11	17.2	4	6.3
Members of the judicial community should undergo training on the potential use of AI in the judicial system.	4	6.3	4	6.3	5	7.8	**23**	**35.9**	**28**	**43.8**
The use of AI tools in the judicial system can amplify biases and discrimination.	12	18.8	14	21.9	20	31.3	7	10.9	11	17.2
The use of AI tools in the judicial system could be subject to manipulation or abuse.	5	7.8	7	10.9	18	28.1	**16**	**25.0**	**18**	**28.1**
The use of AI tools in the judicial system could be a factor for positive change in the application of the law in the future.	11	17.2	11	17.2	14	21.9	20	31.3	8	12.5
The use of AI in the judicial system could raise many ethical questions.	2	3.1	5	7.8	10	16.6	**22**	**34.4**	**25**	**39.1**
I am willing to learn and adapt my work to the use of AI in case management.	9	14.1	1	1.6	4	6.3	**20**	**46.9**	**20**	**31.3**

Table 2 shows the frequency distribution and percentages of responses in relation to the group of variables related to the knowledge and attitudes of members of the judicial community regarding the variables related to the application of AI in criminal proceedings (AICP).

The table shows that respondents are, in most cases, clearly decisive regarding these variables. A significant number of respondents expressed a positive attitude regarding the possible contribution of AI to the efficiency of investigating and prosecuting criminal offences (57.9%), which, when combined with respondents who were indecisive (23.4%), accounts for over 80% of responses that could be viewed as supporting the contribution of AI to efficiency in the investigation and prosecution of criminal offences. Similar results were seen regarding the contribution of AI to reducing the burden on the judicial system and accelerating the process of resolving criminal cases. On the other hand, as obstacles to the application of AI in criminal proceedings, respondents indicated concerns regarding potential abuses of AI (almost 85% believe that abuses are possible), the lack of legal regulations regarding any harm that AI could cause in criminal proceedings (almost 90% believe that this should be regulated by law), the non-implementation of international standards (almost 90% believe that these standards should be implemented in our legislation), and the need to pay attention to the protection of personal data in the application of AI in criminal proceedings (more than 84%). More than 90% of respondents believe that Bosnia and Herzegovina is not and will not be ready for the application of AI in criminal proceedings soon.

Table 2.

FREQUENCY DISTRIBUTION AND RESPONSE PERCENTAGES FOR THE AICP VARIABLE

AICP	Strongly disagree		Somewhat disagree		Neither agree nor disagree		Somewhat agree		Strongly agree	
	f	%	f	%	f	%	f	%	f	%
I believe that AI could improve efficiency in the investigation and prosecution of criminal offences.	6	9.4	6	9.4	15	23.4	**25**	**39.1**	**12**	**18.8**
AI could contribute to reducing the burden on the judicial system and accelerating the process of resolving criminal cases.	8	12.5	4	6.3	16	25.0	**24**	**37.5**	**12**	**18.8**
I fear that AI could take over various jobs, including those in the judicial community.	14	21.9	13	20.3	9	14.1	17	26.6	11	17.2
AI could be abused in criminal cases because such a participant in the proceedings cannot be held accountable.	6	9.4	4	6.3	16	25.0	**18**	**28.1**	**20**	**31.3**
Liability for damage caused by AI in criminal proceedings should be regulated by a special law.	5	7.8	2	3.1	11	17.2	**16**	**25.0**	**30**	**46.9**
The use of AI will contribute to the objectivity of criminal proceedings.	15	23.4	9	14.1	14	21.9	24	37.5	2	3.1
For AI to be applied in criminal proceedings in Bosnia and Herzegovina, it is necessary, first of all, to apply international standards in our legislation.	5	7.8	2	3.1	10	15.6	**19**	**29.7**	**28**	**43.8**

AICP	Strongly disagree		Somewhat disagree		Neither agree nor disagree		Somewhat agree		Strongly agree	
	f	%	f	%	f	%	f	%	f	%
Bosnia and Herzegovina is not and will not soon be ready for the application of AI in criminal proceedings.	0	0.0	0	0.0	6	9.4	**19**	**29.7**	**39**	**60.9**
Bosnia and Herzegovina is already using some AI tools in criminal proceedings.	30	46.9	8	12.5	24	37.5	1	1.6	1	1.6
It is essential to prepare legal regulations for the protection of personal data in criminal cases handled by AI.	2	3.1	0	0.0	8	12.5	**19**	**29.7**	**35**	**54.7**
I believe that AI has no place in criminal proceedings.	8	12.5	13	20.3	16	25.0	9	14.1	18	28.1

Table 3 shows the attitudes (frequency and percentages) of respondents regarding the possible use of AI as a consultative tool in performing individual tasks in criminal proceedings (AICPCT).

It is noticeable that a significant percentage of respondents have positive attitudes regarding the use of AI as a consultative tool for the following actions: providing answers to common questions from parties and scheduling appointments (71.0%); writing various submissions (58.1%); analysing data contained in the court file (59.7%), with 17.7% indecisive on this variable; 74.2% of respondents have a positive attitude towards using AI as a consultative tool for keeping trial minutes and analysing case law (67.8%).

Respondents expressed negative attitudes towards the use of AI as a consultative tool in performing certain tasks: writing indictments (51.6%), rendering decisions (70.9%), writing legal remedies (54.8%).

Table 3.

FREQUENCY DISTRIBUTION AND RESPONSE PERCENTAGES FOR THE AICPCT VARIABLE

AICPCT	Strongly disagree		Somewhat disagree		Neither agree nor disagree		Somewhat agree		Strongly agree	
	f	%	f	%	f	%	f	%	f	%
Providing answers to common questions from parties and scheduling appointments.	6	9.7	4	6.5	8	12.9	**22**	**35.5**	**22**	**35.5**
Writing various submissions.	9	14.5	8	12.9	9	14.5	**24**	**38.7**	**12**	**19.4**
Analysing data contained in the court file.	10	16.1	4	6.5	11	17.7	**21**	**33.9**	**16**	**25.8**
Assessing the level of risk of recidivism.	15	24.2	7	11.3	10	16.1	19	30.6	11	17.7
Assessing the level of risk of escape.	17	27.4	9	14.5	9	14.5	17	27.4	10	16.1
Writing an indictment.	**23**	**37.1**	**9**	**14.5**	**9**	14.5	14	22.6	7	11.3
Evaluating evidence (documents and statements).	21	33.9	10	16.1	6	9.7	19	30.6	6	9.7
Keeping records of the main trial.	5	8.1	4	6.5	7	11.3	**20**	**32.3**	**26**	**41.9**
Rendering decisions.	**34**	**54.8**	**10**	**16.1**	5	8.1	9	14.5	4	6.5
Writing the reasoning for a court decision.	29	46.8	8	12.9	7	11.3	13	21.0	5	8.1
Analysing case law.	6	9.7	2	3.2	12	19.4	**20**	**32.3**	**22**	**35.5**
Writing legal remedies.	**23**	**37.1**	**11**	**17.7**	5	8.1	16	25.8	7	11.3
Deciding on parole.	27	43.5	8	12.9	8	12.9	13	21.0	6	9.7

Given the research question and topic of this research, and in order to gain a better insight into the overall attitudes of respondents, members of the Bosnia and Herzegovina judicial community, regarding the use of AI in performing tasks in criminal proceedings, we calculated the total percentages for the individual statements presented to them and display these in Chart 1. The chart shows that the respondents are divided in such a way that a slightly higher percentage (around 48%) believe that AI in general can be useful as an aux-

iliary tool in performing certain tasks in criminal proceedings, around 13% are indecisive, while around 39% expressed a negative attitude towards the use of AI in criminal proceedings as an auxiliary tool. The authors believe that this is a result of a lack of knowledge about AI tools and their applicability in criminal proceedings.

Chart 1.

THE PERCENTAGE OF RESPONDENTS' ANSWERS ON THE APPLICATION OF AI IN PERFORMING INDIVIDUAL TASKS IN CRIMINAL PROCEEDINGS AS A CONSULTATIVE TOOL.

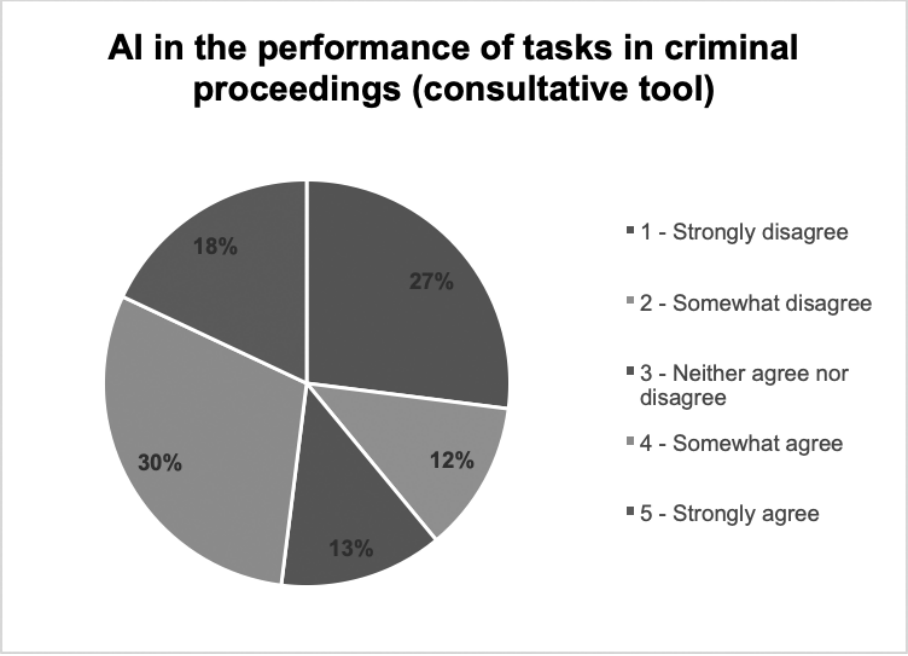


Table 4 shows the frequency distribution and percentage of respondents' answers regarding the possibility of using AI as a tool to independently perform previously defined tasks in criminal proceedings.

From the table, it can be observed that respondents are quite divided in their opinions. The most important conclusion to be drawn from these data is that respondents do not significantly support the idea of AI performing any task in criminal proceedings independently and fully.

A positive attitude is reflected in the respondents' belief that AI could independently keep the minutes of hearings (49.2%), provide answers to common

questions from parties, and schedule appointments (50.8%), while other opinions are predominantly negative.

Table 4.

FREQUENCY DISTRIBUTION AND RESPONSE PERCENTAGES FOR THE AICPI VARIABLE

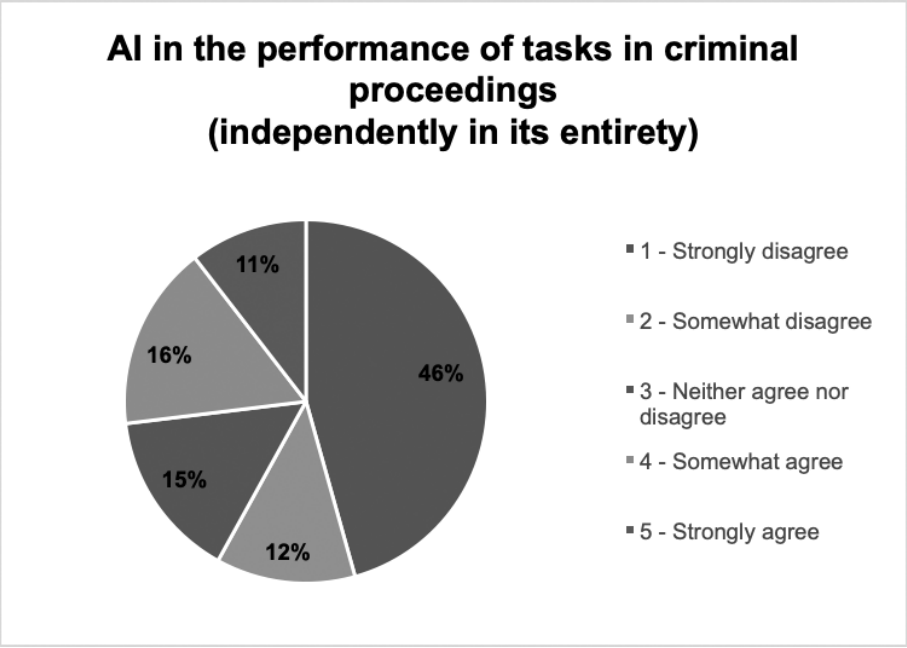
AICPI	Strongly disagree		Somewhat disagree		Neither agree nor disagree		Somewhat agree		Strongly agree	
	f	%	f	%	f	%	f	%	f	%
Providing answers to common questions from parties and scheduling appointments.	17	27.0	7	11.1	7	11.1	21	**33.3**	**11**	**17.5**
Writing various submissions.	24	38.1	7	11.1	10	15.9	15	23.8	7	11.1
Analysing data contained in the court file.	24	38.1	5	7.9	11	17.5	16	25.4	7	11.1
Assessing the level of risk of recidivism.	**27**	**42.9**	**11**	**17.5**	**8**	12.7	10	15.9	7	11.1
Assessing the level of risk of escape.	**30**	**47.6**	**10**	**15.9**	**9**	14.3	7	11.1	7	11.1
Writing an indictment.	**35**	**55.6**	**10**	**15.9**	**9**	14.3	6	9.5	3	4.8
Evaluating evidence (documents and statements).	**33**	**52.4**	**8**	**12.7**	**8**	12.7	10	15.9	4	6.3
Keeping records of the main trial.	16	25.4	7	11.1	9	14.3	**17**	**27.0**	**14**	**22.2**
Rendering decisions.	**42**	**66.7**	**8**	**12.7**	6	9.5	5	7.9	2	3.2
Writing the reasoning for a court decision.	**36**	**57.1**	**9**	**14.3**	**9**	14.3	5	7.9	4	6.3
Analysing case law.	15	23.8	8	12.7	10	15.9	16	25.4	14	22.2
Writing legal remedies.	**37**	**58.7**	**8**	**12.7**	9	14.3	6	9.5	3	4.8
Deciding on parole.	**37**	**58.7**	**6**	**9.5**	11	17.5	4	6.3	5	7.9

In order to gain insight into the overall results regarding the attitudes of respondents about all variables from the group of variables related to the independent and complete performance of tasks in criminal proceedings by AI, we calculated the percentages of overall attitudes which are presented in Chart 2.

Chart 2 shows that a very small percentage of respondents had positive attitudes regarding the acceptability of AI in fully and independently performing tasks in criminal proceedings (about 28%). The remaining respondents had a negative attitude (around 58%) concerning these variables, or they were indecisive (about 14%).

Chart 2.

THE PERCENTAGE OF RESPONDENTS' ANSWERS ON THE APPLICATION OF AI IN PERFORMING INDIVIDUAL TASKS IN CRIMINAL PROCEEDINGS INDEPENDENTLY AND IN THEIR ENTIRETY



4.2.2. Comparative analysis of the research of Pérez Domínguez & Pere Simón and this research

If we compare the results obtained here with those from the research by Pérez Domínguez and Pere Simón, we will see that they are quite similar.

Table 5 shows the positive attitudes of respondents regarding tasks in criminal proceedings that could be entrusted to AI. This research indicates significant support from respondents for AI in providing answers to common

questions from parties and scheduling appointments, as tasks that could be entrusted to AI in all cases. There is also notable support from respondents in this study for AI keeping minutes of hearings (74.2%), which was not included in the comparative study. Respondents in both studies showed similar results when it comes to the application of AI in assessing the risk of recidivism, but only as an auxiliary tool.

Table 5.

COMPARATIVE ANALYSIS OF ACCEPTANCE OF AI PERFORMING CERTAIN TASKS IN CRIMINAL PROCEEDINGS

Work	**Pérez Domínguez & Pere Simón (2023)**	**AICPT**	**AICPI**
Providing answers to common questions from parties and scheduling appointments	77.9% (74.1%)	71.5%	81.8%
Analysing data contained in the court file	59.8%	59.8% +17.8% indecisive	
Assessing the level of risk of recidivism (similar when it comes to assessing the level of risk of escape)	61.1% (46.8%)	48.4%+16.1% indecisive	

Table 6 shows that in both surveys, the rendering of a decision by AI is unacceptable, and most respondents are also against decision-making regarding parole.

Table 6.

COMPARATIVE ANALYSIS OF THE REJECTION OF AI PERFORMING CERTAIN TASKS IN CRIMINAL PROCEEDINGS

Work	**Pérez Domínguez & Pere Simón (2023)**	**AICPT**	**AICPI**
Rendering decisions	76.7%	51.5%	79.4%
Deciding on parole	58.5%	56.4%	68.2%

5. CONCLUSION

The research presented is a pilot study on this topic in Bosnia and Herzegovina, conducted with the aim of providing fundamental insights for understanding the status of AI in the Bosnia and Herzegovina judicial community. The shortcomings observed, which we will also address, should not be overlooked, nor should this research be completely dismissed, as it is likely the first of its kind in Bosnia and Herzegovina and can serve as a solid foundation for the development of new studies on this issue.

One of the evident shortcomings that makes this research susceptible to criticism is the small sample size, which is a result of the low interest among members of the judicial community in participating in the study. The authors sent the prepared measurement instrument via email to nearly 2,500 addresses, as described in Section 4 of this paper, resulting in only 64 complete responses, despite additional efforts. The lack of interest from the judicial community, as well as other targeted groups in participating in scientific research in Bosnia and Herzegovina, remains a constant obstacle to quality research. In the future, steps need to be taken in this regard, as the scientific community can hardly offer quality solutions to the problems that hinder the development and progress of Bosnia and Herzegovina on its path to the European Union without the participation of interested parties.

This research yielded similar results to the study conducted in Spain. Respondents show a greater acceptance of using AI in criminal proceedings as a consultative (auxiliary) tool compared to its use as a tool that independently performs certain tasks entirely. Respondents do not provide any significant support for AI in performing any tasks in criminal proceedings independently and in their entirety. A very important finding is that over 90% of respondents believe that Bosnia and Herzegovina is not and will not soon be ready for the application of AI in criminal proceedings, and that respondents do not express any significant support for AI in performing any tasks in criminal proceedings independently and in their entirety.

The hypothesis tested in this research is confirmed by the results of the empirical study, and we can state that members of the Bosnia and Herzegovina judicial community have negative attitudes towards the application of AI in criminal proceedings.

This research will hopefully stimulate greater interest among the academic and professional public in investigating this issue, and contribute to opening communication between science and practice so that preparations for the arrival of AI in this sphere of life in Bosnia and Herzegovina can be as effective as possible.

AI is certainly coming to the judiciary and criminal proceedings. It is therefore up to us to prepare as well as we can to use it for the overall improvement

of the system. It is hoped that this research will serve as an impetus for training centres for judges and prosecutors, as well as bar associations, to develop adequate training programmes in collaboration with the scientific community and to begin implementing them as soon as possible.

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Sažetak

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PRAVOSUĐE I UMJETNA INTELIGENCIJA: BOSANSKOHERCEGOVAČKA KAZNENOPRAVNA PERSPEKTIVA

Istraživanje koje se prikazuje pilotno je istraživanje ove problematike u Bosni i Hercegovini, a provedeno je s ciljem da pruži temeljne spoznaje za razumijevanje statusa umjetne inteligencije u bosanskohercegovačkoj pravosudnoj zajednici. Dosadašnja iskustva o primjeni UI-ja u bosanskohercegovačkom kaznenom postupku autorima ovog istraživanju nisu bila dos-

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tupna, a moguće je i da ne postoje, te su se željele provjeriti mogućnosti i prihvatljivost umjetne inteligencije od strane pravosudne zajednice u Bosni i Hercegovini. Radi ostvarenja tako definiranog cilja istraživanja nastojat ćemo testirati hipotezu koju smo definirali kako slijedi: Članovi pravosudne zajednice imaju negativne stavove u vezi s primjenom umjetne inteligencije u kaznenom postupku. Za potrebe istraživanja razvijen je poseban mjerni instrument, koji je distribuiran u pravosudnu zajednicu, odgovori su sumirani i prezentirani korištenjem deskriptivne statistike u obliku frekvencija i postotaka odgovora ispitanika o svim tvrdnjama podijeljenima u četiri skupine. Hipoteza koja se provjeravala ovim istraživanjem potvrđena je rezultatima empirijskog istraživanja te možemo reći da članovi bosanskohercegovačke pravosudne zajednice imaju negativne stavove u vezi s primjenom umjetne inteligencije u kaznenom postupku. Očekuje se da će ovo istraživanje probuditi veću zainteresiranost znanstvene i stručne javnosti za istraživanje ovog problema i predmeta te da će pridonijeti otvaranju komunikacije između znanosti i prakse kako bismo se što bolje pripremili za dolazak umjetne inteligencije i u tu sferu života u Bosni i Hercegovini.

Ključne riječi: umjetna inteligencija, kazneni postupak, stavovi pravosudne zajednice, Uredba EU-a o umjetnoj inteligenciji, Bosna i Hercegovina