

Challenges to the Principle of Transparency, the Right to Explanation, and the Right to Redress Against AI-Based Decisions in Administrative Law

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Abstract

This study aims to systematically review the specialized literature and analyze the challenges related to transparency, the right to explanation, and the right to redress in response to AI-based administrative decisions. Based on the PRISMA 2020 framework, a systematic search was conducted in the databases of Scopus, Web of Science, Google Scholar, and two Persian-language databases, namely the Comprehensive Portal of Humanities and Social Sciences and SID, covering the period from 2016 to 2025. Following the application of rigorous inclusion and exclusion criteria and a three-stage screening process, 9 articles (6 in English and 3 in Persian) were ultimately selected from an initial pool of 255 records for final qualitative synthesis. The extracted data were categorized and analyzed across six major themes. The analysis revealed an inherent tension between the efficiency-driven logic of algorithms and the protective legal requirements of administrative law. In the area of transparency, the literature demonstrates a transition from the concept of “formal transparency” (information disclosure) to “meaningful transparency” (citizen-oriented interpretability and comprehensibility). Regarding the right to explanation, the “gap between technical explainability (XAI) and legal explainability” was identified as the principal barrier to realizing this right. The most significant finding was the identification of the “right to redress” as the weakest dimension of the protective triad; traditional mechanisms of judicial review were deemed insufficient in addressing the complexities of algorithmic “black-box” systems, underscoring the need for new procedural standards and anticipatory oversight mechanisms, such as independent audits. The findings further suggest that the challenges of algorithmic administrative law are not solely legal and technical in nature but are intertwined with broader dimensions, including democratic accountability, the exacerbation of social inequalities, and organizational culture. Ensuring transparency, the right to explanation, and the right to redress in the era of algorithmic governance requires a conceptual reengineering of traditional principles of administrative law and the adoption of a multidimensional strategy encompassing technical (development of explainability tools), legal (formulation of new procedural standards), institutional (establishment of specialized and independent oversight bodies), and cultural (institutionalization of a culture of accountability) dimensions.

Keywords: Algorithmic Transparency, Right to Explanation, Judicial Review, Administrative Law, Artificial Intelligence

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1. Introduction

The rapid development of artificial intelligence (AI) and algorithmic decision-making systems has fundamentally transformed the nature of public governance and administrative decision-making. Governments worldwide increasingly rely on AI-driven systems to process large volumes of information, allocate public resources, assess eligibility for social benefits, manage immigration procedures, detect fraud, and support regulatory enforcement. These technologies promise significant gains in efficiency, consistency, speed, and cost reduction. As public administrations continue their digital transformation, AI is no longer viewed merely as a technological tool but as an integral component of contemporary governance structures (Luise & Coccozza, 2025; Sheehy & Ng, 2023).

The transition from traditional bureaucratic administration to digitally enabled governance has accelerated in recent years, creating new models of administrative action that increasingly depend on automated systems. This transformation is often characterized as a movement toward “artificial administration,” in which algorithmic systems participate directly in administrative processes that were previously performed exclusively by human officials. Such developments have generated substantial interest among policymakers and scholars because they promise more efficient public services while simultaneously raising important legal, ethical, and institutional concerns regarding the exercise of public authority (Carloni, 2024; Luise & Coccozza, 2025).

Administrative law has historically developed mechanisms to ensure that public power is exercised transparently, rationally, and accountably. Core principles such as transparency, procedural fairness, reason-giving, due process, and judicial review serve as safeguards against arbitrary governmental action. These principles have evolved over centuries to protect citizens from abuses of administrative discretion and to preserve the rule of law within public administration. However, the growing use of AI-based decision-making systems challenges the adequacy of these traditional legal frameworks. The complexity and opacity of algorithmic systems often make it difficult to determine how decisions are made, who is responsible for them, and how affected individuals may challenge adverse outcomes (Oswald, 2018; Suksi, 2021).

One of the most significant challenges associated with AI in public administration concerns the principle of transparency. Transparency has long been regarded as a foundational requirement of democratic governance and administrative legitimacy. It enables citizens to understand how public decisions are made, facilitates oversight by courts and regulatory bodies, and strengthens public trust in governmental institutions. However, many contemporary AI systems, particularly those based on machine learning and deep learning techniques, operate in ways that are difficult to interpret even for their developers. This phenomenon, commonly referred to as the “black box” problem, creates substantial barriers to transparency and accountability in administrative decision-making (Cerrillo i Martinez, 2019; Sawicki, 2025).

The black-box nature of algorithmic systems has prompted scholars to reconsider traditional understandings of transparency. Conventional approaches often focus on disclosure obligations, access to information, and publication of administrative reasoning. Yet in the context of AI, merely providing access to source code or technical documentation may not enable meaningful understanding by citizens, lawyers, judges, or even public officials. Consequently, contemporary scholarship increasingly distinguishes between formal transparency and meaningful transparency. Meaningful transparency requires not only access to information but also the ability to comprehend how decisions are generated and how algorithmic systems affect individual rights and interests (Carloni, 2024; Murad, 2021; Pavel & Nikita, 2025).

The emergence of meaningful transparency reflects broader concerns regarding the legitimacy of algorithmic governance. When individuals are unable to understand the basis of administrative decisions affecting them, confidence in public institutions may decline. Moreover, opaque decision-making processes may obscure errors, biases, and discriminatory outcomes that would otherwise be subject to scrutiny and correction. These concerns have motivated growing academic and regulatory interest in developing legal frameworks capable of promoting transparency while accommodating the technical complexities of AI systems (Krook et al., 2025; Yeganegi & Afrooz, 2025).

Closely related to transparency is the right to explanation, which has emerged as one of the most debated issues in contemporary discussions of AI governance. The right to explanation seeks to ensure that individuals affected by automated decisions receive understandable reasons for those decisions. Within administrative law, reason-giving serves several important functions. It promotes accountability, enables effective participation in administrative processes, facilitates judicial review, and

helps ensure that decisions are based on lawful and rational considerations. When decisions are generated by complex algorithms, however, providing meaningful explanations becomes significantly more difficult (Suksi, 2021; Ullits, 2016).

The challenge of explanation is not merely technical but also legal and institutional. While advances in Explainable Artificial Intelligence (XAI) have produced tools designed to enhance the interpretability of algorithmic systems, technical explainability does not necessarily satisfy legal requirements for reason-giving. An explanation that is meaningful to data scientists may be incomprehensible to ordinary citizens. Administrative law requires explanations that enable affected individuals to understand why a decision was made, how relevant factors were evaluated, and whether the decision complies with legal standards. Consequently, the gap between technical explanations and legal explanations has become a central concern in debates surrounding AI-based administrative decision-making (Krook et al., 2025; Oswald, 2018; Ullits, 2016).

The growing importance of the right to explanation has also influenced regulatory developments around the world. Legal frameworks such as the European Union's General Data Protection Regulation (GDPR) have introduced requirements designed to enhance transparency and provide individuals with meaningful information regarding automated decision-making processes. These developments reflect broader efforts to balance innovation with the protection of fundamental rights. Nevertheless, significant uncertainty remains regarding the precise scope, content, and enforceability of explanation rights in administrative contexts involving AI systems (Ajibade, 2018; Gallone, 2024).

Beyond transparency and explanation, the right to challenge and seek redress against administrative decisions represents another essential safeguard within democratic governance. Effective remedies ensure that individuals adversely affected by governmental decisions can contest those decisions before independent bodies and obtain appropriate relief when errors or injustices occur. The availability of judicial review and administrative appeals mechanisms has traditionally served as a cornerstone of administrative accountability. However, the introduction of AI-based decision-making systems complicates these processes in several important respects (Chau, 2025; Suksi, 2021).

One major difficulty arises from the fact that effective legal challenges typically depend upon understanding the reasoning underlying a decision. When algorithmic systems operate opaquely, affected individuals may struggle to identify errors, demonstrate unlawful conduct, or establish grounds for appeal. Courts and administrative tribunals may face similar difficulties when attempting to evaluate the legality of algorithmically generated decisions. As a result, traditional mechanisms of judicial review may prove inadequate in addressing the unique challenges posed by AI-based governance (Chau, 2025; Sawicki, 2025).

Scholars have increasingly argued that ensuring accountability in algorithmic administration requires the development of new institutional mechanisms and oversight frameworks. Independent audits, algorithmic impact assessments, public registries of automated decision-making systems, and specialized supervisory authorities have been proposed as potential solutions. Such mechanisms aim to supplement traditional forms of judicial review by providing proactive oversight and enhancing public confidence in the use of AI within governmental institutions (Murad, 2021; Pavel & Nikita, 2025; Yeganegi & Afrooz, 2025).

The legal legitimacy of algorithmic decision-making has become a particularly important concern within public law scholarship. Legitimacy depends not only on the technical performance of AI systems but also on their compliance with constitutional principles, administrative procedures, and fundamental rights protections. Algorithmic decisions must be capable of being justified, reviewed, and contested within established legal frameworks. Consequently, the deployment of AI in public administration raises fundamental questions regarding the relationship between technology and the rule of law (Hosseini et al., 2025; Tangestani & Moradi, 2025).

Recent comparative studies have demonstrated that different jurisdictions are responding to these challenges through a variety of legal and regulatory approaches. The European Union has emerged as a global leader in AI governance through initiatives such as the GDPR and the AI Act, which emphasize transparency, accountability, risk management, and human oversight. Other jurisdictions have adopted alternative approaches reflecting their unique legal traditions and institutional structures. Comparative analysis provides valuable insights into the strengths and limitations of existing regulatory models and highlights the importance of context-sensitive legal reforms (Gallone, 2024; Hosseini et al., 2025; Tangestani & Moradi, 2025).

At the same time, the increasing reliance on AI raises broader ethical concerns regarding discrimination, fairness, privacy, democratic accountability, and social justice. Algorithmic systems trained on historical datasets may inadvertently reproduce or amplify existing inequalities, leading to discriminatory outcomes in areas such as public benefits allocation, law enforcement, and regulatory enforcement. These risks underscore the importance of integrating legal safeguards with ethical principles and technical design considerations. Effective governance of AI therefore requires interdisciplinary approaches that combine insights from law, computer science, public administration, ethics, and social sciences (Ajbade, 2018; Sawicki, 2025; Yeganegi & Afrooz, 2025).

Furthermore, contemporary scholarship increasingly recognizes that transparency and accountability cannot be achieved solely through legal rules or technological solutions. Organizational culture, institutional capacity, public awareness, and professional expertise play critical roles in determining whether AI systems are implemented responsibly and whether safeguards operate effectively in practice. The success of regulatory frameworks depends not only on formal legal requirements but also on the willingness and ability of public institutions to embrace transparency, accountability, and continuous oversight (Carloni, 2024; Krook et al., 2025; Luise & Coccozza, 2025).

As governments continue to expand the use of AI within administrative processes, the challenges associated with transparency, explanation, and redress are likely to become increasingly significant. Understanding these challenges is essential for developing legal frameworks capable of preserving administrative legitimacy while harnessing the benefits of technological innovation. Despite the growing body of scholarship on AI governance, important questions remain regarding how traditional principles of administrative law should be adapted to address algorithmic decision-making and how citizens' rights can be effectively protected within emerging forms of digital governance (Chau, 2025; Gallone, 2024; Sheehy & Ng, 2023).

Therefore, the aim of this study is to examine the challenges that AI-based administrative decisions pose to the principles of transparency, the right to explanation, and the right to redress in administrative law through a comprehensive analysis of contemporary legal, regulatory, and scholarly perspectives.

2. Methodology

This study adopts a systematic literature review approach to identify, analyze, and explain challenges related to the principle of transparency, the right to explanation, and the right to redress concerning AI-based administrative decisions. To ensure transparency, coherence, and reproducibility of the research process, all stages of the study were designed and implemented in accordance with the principles and guidelines of the PRISMA 2020 Statement. The research design was structured around one main research question and several subsidiary questions. The primary question asked: *How have challenges related to the principle of transparency, the right to explanation, and the right to redress in the context of AI-based administrative decisions been conceptualized in legal and interdisciplinary literature, and what are their most significant theoretical and practical dimensions?*

The systematic search process was conducted in January 2026. To maximize scholarly coverage, searches were carried out across three international databases: Scopus, Web of Science, and Google Scholar. In addition, to include Persian-language scholarship, two domestic scientific databases the Comprehensive Portal of Humanities and the Scientific Information Database (SID) were also searched. The study period covered publications from 2016 to 2025. Only studies published in Persian or English and with full-text accessibility were included in the screening process.

The search strategy was designed using Boolean operators (AND and OR) and focused on article titles, abstracts, and keywords. Keywords were selected to cover both technical concepts associated with algorithmic decision-making and artificial intelligence, as well as concepts related to administrative law, transparency, explainability, accountability, and judicial review. In the English-language search, terms such as *“Algorithmic Administrative Law”*, *“Automated Decision-Making”*, *“Transparency”*, *“Right to Explanation”*, *“Judicial Review”*, and *“Administrative Law”* were used in combination. In the Persian-language search, keywords including *algorithmic decision-making*, *transparency*, *right to explanation*, *judicial review*, *redress*, and *administrative law* were employed.

Following the initial collection of studies, inclusion and exclusion criteria were applied to determine the final sample. Inclusion criteria accepted studies published between 2016 and 2025, written in Persian or English, and focused on legal challenges related to transparency, explainability, or redress in AI-based decision-making within the public sector and

governmental administration. In addition to peer-reviewed journal articles, certain high-quality legal reports and doctoral dissertations were included where appropriate. Conversely, studies dealing exclusively with private or commercial applications of AI such as marketing or banking or lacking scientific rigor were excluded. Articles for which only abstracts were available or which lacked direct relevance to administrative law and public decision-making were also removed.

The screening and study selection process followed the standard PRISMA framework and was conducted in three stages. In the first stage (identification), all records retrieved from database searches were collected, and duplicates were manually removed. In the second stage, the titles and abstracts of the remaining studies were evaluated to determine their relevance to the research topic. At this stage, studies focusing solely on technical aspects of AI or on medical, financial, or managerial applications without a clear connection to administrative law or legal protections for citizens were excluded. In the third stage, the full texts of selected studies were reviewed and evaluated according to the inclusion and exclusion criteria. At the conclusion of this process, nine studies, including six English-language articles and three Persian-language articles, were identified as eligible and included in the final synthesis (Figure 1).

eligible studies were selected for qualitative analysis and data extraction (Figure 1).

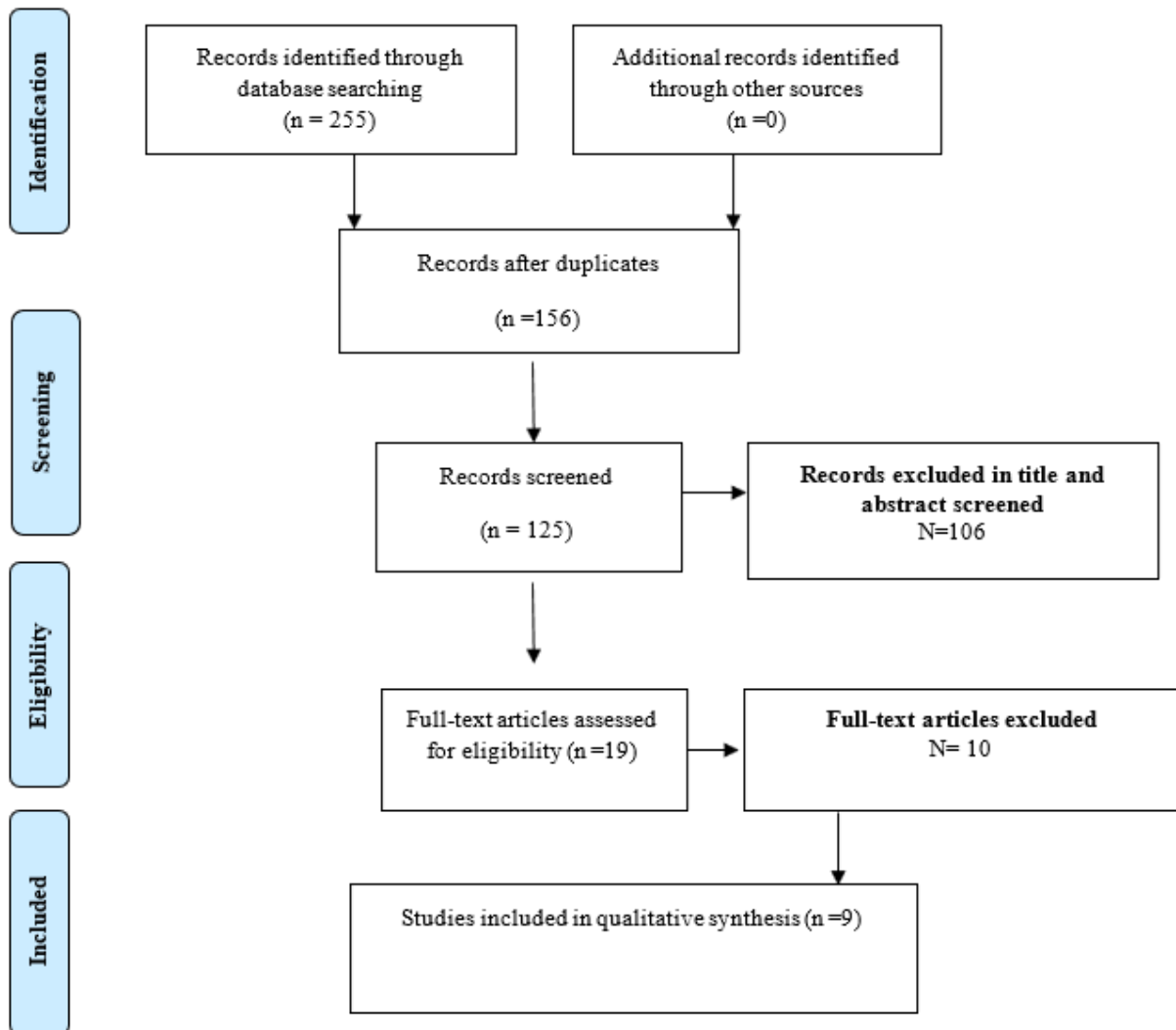


Figure 1: Diagram of Study Selection Process

Subsequently, to ensure the systematic extraction of data, an analytical framework was developed to collect both bibliographic and substantive information from the selected studies. At this stage, data including authors' names, year of publication, geographical scope of the study, type of legal system examined, challenges related to transparency, the right to explanation, redress and judicial review, as well as the proposed solutions identified in each study, were extracted. Following the completion of the extraction process, the qualitative data were analyzed.

3. Findings and Results

A systematic summary of the data extracted from the nine final studies is presented in Table 1. The reviewed studies were examined according to seven dimensions: author and year, transparency challenges, the right to explanation and statement of reasons, the right to redress and judicial review, specific challenges identified, proposed solutions or additional remarks, and geographical scope. The comparative analysis showed that the selected studies converged around three central legal-protective concerns: transparency, explanation, and redress in AI-based administrative decisions.

Table 1. Summary of Screened Studies

No.	Authors and Year	Transparency Challenges	Right to Explanation and Statement of Reasons	Right to Redress and Judicial Review	Specific Challenges Identified	Proposed Solutions / Additional Remarks	Geographical Scope
1	Sawicki, J. (2025)	The “black box” nature of algorithms inherently complicates compliance with transparency requirements.	Emphasizes the necessity of explainability frameworks for algorithmic functioning.	Calls for algorithmic accountability mechanisms to ensure fairness and legality in decision-making.	The inherent tension between efficiency and legal requirements.	Designing accountability mechanisms and strengthening regulatory oversight.	International
2	Chau, V. U. M. (2025)	Identifies a fundamental tension between procedural transparency and technological innovation in rulemaking.	Highlights violations of the duty to provide reasons in AI-generated delegated legislation.	Argues that traditional judicial review is insufficient for algorithmic rulemaking.	Absence of democratic accountability in automated processes.	New judicial review standards and revised transparency obligations.	International comparative analysis
3	Krook, J. et al. (2025)	The “black box” problem results in unfair outcomes, privacy violations, and lack of accountability.	Discusses XAI and counterfactual methodologies.	Lack of transparency obstructs judicial and administrative review.	Gap between technical solutions and organizational culture.	Whole-of-organization approach and transparency toolbox.	European Union and United Kingdom
4	Murad, M. (2021)	Focuses on operationalizing meaningful transparency for citizens.	Proposes standardized and interpretable disclosure through public registries.	Treats transparency as a prerequisite for accountability and public engagement.	Citizens’ lack of awareness regarding ADM systems.	Creation of public ADM registries.	Global, Amsterdam case study
5	Carloni, E. (2024)	Calls for reconceptualization of traditional transparency in artificial administration.	Distinguishes between possible transparency and necessary transparency.	Warns against reduced protection of citizens’ rights due to outdated legal rules.	Old legal frameworks cannot govern emerging technologies adequately.	Redefinition and reinforcement of legal guarantees.	Italy and European Union
6	Ajibade, O. A. (2018)	Examines transparency obligations in automated profiling under Article 22 of the GDPR.	Focuses on meaningful information about automated decision-making logic.	Presents GDPR as a legal instrument for enforcing rights and accountability.	Reconciling big data analytics with GDPR principles.	Reliance on GDPR as a binding rights-protection framework.	European Union
7	Tangestani, M., & Moradi Barlian (2025)	Absence of full transparency is a key challenge to legitimacy in public law.	Human oversight and review are foundational components of legitimacy.	Legal legitimacy depends on accountability rather than technology itself.	Iran’s transition from e-government to data-driven government and legal gaps.	Legislative, institutional, and cultural reforms for Iran.	Iran, France, Germany, European Union
8	Yeganegi & Afrooz (2025)	Lack of transparency, algorithmic discrimination, and privacy violations are major concerns.	Highlights need for transparent frameworks for algorithmic oversight.	Recommends independent auditing and oversight protocols.	AI may exacerbate social inequalities in judicial systems and resource allocation.	Ethical training, independent auditing, and legal frameworks.	International
9	Hosseini Moghadam et al. (2025)	AI may enhance institutional and data transparency.	Refers to an effective right to contest algorithmic decisions.	Stresses effective appeal and oversight of algorithmic administrative decisions.	Insufficient legal and technical infrastructure in Iran.	Modeling reforms on the EU AI Act and GDPR.	Iran and European Union

The first finding concerned the inherent tension between algorithmic efficiency and the fundamental principles of administrative law. Across the reviewed studies, AI-based administrative decision-making was repeatedly associated with a conflict between the speed, automation, and optimization logic of algorithms and the legal requirements of transparency, justification, accountability, and controllability. The findings showed that this tension is not limited to individual administrative decisions but also affects broader regulatory and institutional processes, especially where algorithms participate in delegated rulemaking, eligibility assessment, risk classification, or allocation of public resources.

The second finding was the transformation of transparency from a formal administrative principle into a substantive and citizen-centered requirement. The reviewed studies indicated that traditional transparency, based mainly on access to documents, publication of decisions, or disclosure of information, is insufficient in algorithmic administration. In AI-based systems, transparency must include interpretability, comprehensibility, traceability, and the ability of affected individuals and oversight institutions to understand the logic and consequences of automated decisions. Accordingly, the findings revealed a conceptual movement from formal transparency toward meaningful transparency.

The third finding related to the right to explanation. The extracted data showed that explanation is positioned as a bridge between transparency and redress. However, the reviewed studies consistently identified a gap between technical explainability and legal explainability. Technical explanations may clarify how a model operates, but they do not necessarily provide legally sufficient reasons for a specific administrative decision. The findings therefore showed that the realization of the right to explanation requires explanations that are understandable to citizens, relevant to legal standards, and usable for objection, appeal, and judicial review.

The fourth finding concerned the right to redress and judicial review. Compared with transparency and explanation, redress appeared as the weakest and least developed dimension of the protective framework. The reviewed studies showed that traditional mechanisms of judicial review are often inadequate for algorithmic decisions because courts, citizens, and lawyers may lack access to the internal logic of the system, the quality of training data, the role of human oversight, and the source of possible bias or error. The findings therefore indicated a need for new forms of administrative appeal, algorithmic auditing, independent oversight, and revised standards of judicial review.

The fifth finding related to the Iranian context and the transition from e-government to data-driven or algorithmic government. The reviewed studies concerning Iran showed that the main challenges include insufficient legal infrastructure, limited technical capacity, absence of specialized supervisory institutions, lack of clear procedural standards, and the need to adapt international regulatory models to domestic public-law structures. The findings indicated that the Iranian legal system requires localized reforms rather than direct transplantation of foreign regulatory frameworks.

The sixth finding concerned extra-legal and institutional challenges. The reviewed studies showed that the problems of algorithmic transparency, explanation, and redress are not exclusively technical or doctrinal. They are also connected to democratic accountability, social inequality, institutional culture, organizational capacity, and public trust. Algorithmic systems may reproduce existing biases, intensify inequalities, and reduce democratic oversight if implemented without adequate safeguards. Therefore, the findings showed that effective governance of AI-based administrative decisions requires legal, technical, institutional, and cultural mechanisms.

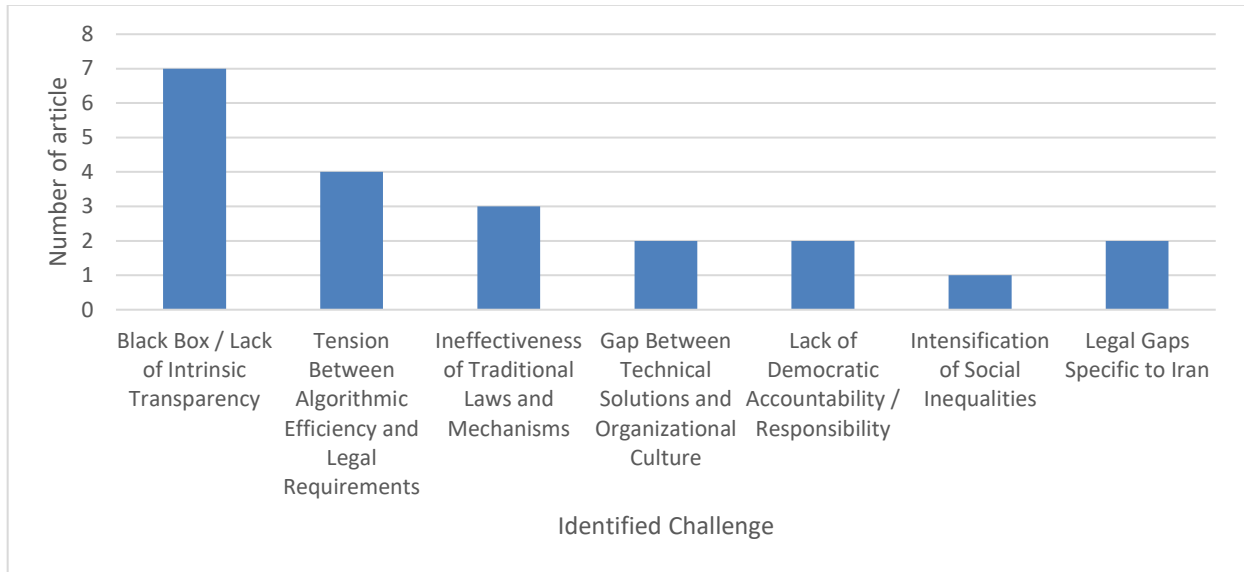


Figure 2. Comparative Representation of References to Challenges in the Final Studies

4. Discussion and Conclusion

The findings of the present study reveal that the growing integration of artificial intelligence into administrative decision-making processes has generated a multidimensional challenge for traditional principles of administrative law, particularly transparency, the right to explanation, and the right to redress. The review demonstrated that these principles, which historically served as the cornerstone of administrative legitimacy and accountability, are increasingly strained by the emergence of complex algorithmic systems. The results indicate that the most frequently discussed challenge in the literature is the opacity of AI systems, commonly described as the “black box” phenomenon, which undermines both citizens’ understanding of administrative decisions and the ability of oversight institutions to scrutinize them. This finding is consistent with the arguments of Cerrillo i Martinez, who emphasized that algorithmic opacity creates significant barriers to accountability and public oversight (Cerrillo i Martinez, 2019). Similarly, Sawicki argued that the growing reliance on algorithms introduces legal and ethical concerns because automated systems frequently operate in ways that are difficult to understand and evaluate from a legal perspective (Sawicki, 2025). The convergence of these findings suggests that transparency challenges are not incidental consequences of technological innovation but rather structural characteristics of contemporary AI systems that require new legal responses.

A significant finding of this study concerns the transformation of the concept of transparency itself. The reviewed literature demonstrates a shift from traditional notions of transparency based on information disclosure toward more substantive forms of transparency focused on intelligibility and meaningful understanding. The findings suggest that making information available is insufficient if citizens cannot comprehend the rationale underlying administrative decisions. This conclusion aligns closely with the concept of meaningful transparency proposed by Murad, who argued that transparency should be evaluated according to whether affected individuals can actually understand how algorithmic systems influence decisions affecting their rights and interests (Murad, 2021). Likewise, Pavel and Nikita emphasized that transparency in the digital age requires the development of institutional, technical, and legal mechanisms capable of translating complex technological processes into understandable forms for citizens and public authorities (Pavel & Nikita, 2025). Carloni similarly highlighted the distinction between technical transparency and legally relevant transparency, arguing that public administration must redefine transparency requirements to reflect the realities of algorithmic governance (Carloni, 2024). Taken together, these studies support the present finding that transparency must evolve beyond simple disclosure obligations and become a citizen-centered principle focused on meaningful understanding.

The results further indicate that the right to explanation occupies a central position between transparency and accountability. The literature consistently portrays explanation as the mechanism through which transparency becomes operational and through

which citizens can exercise their procedural rights. However, the findings reveal a substantial gap between technical explainability and legal explainability. While contemporary AI research has developed sophisticated methods for improving model interpretability, these tools often fail to provide explanations that satisfy legal requirements or meet the needs of affected individuals. This finding is strongly supported by the work of Ullits, who argued that automated systems must be capable of generating reasons that are understandable and useful for individuals seeking to evaluate the legitimacy of decisions (Ullits, 2016). Similarly, Oswald noted that administrative law traditionally requires decision-makers to provide justifications that facilitate accountability and judicial review, yet algorithmic systems frequently fail to satisfy these expectations (Oswald, 2018). Krook and colleagues further emphasized that technical solutions such as Explainable Artificial Intelligence (XAI) cannot fully address transparency concerns unless they are embedded within broader legal and organizational frameworks (Krook et al., 2025). Consequently, the present findings suggest that achieving meaningful explanations requires not only technological innovation but also legal standards defining the quality, accessibility, and adequacy of algorithmic justifications.

Another important finding concerns the persistent tension between algorithmic efficiency and legal accountability. The reviewed studies consistently identify a conflict between the goals of administrative modernization and the safeguards required by democratic governance. AI systems are often adopted because they increase speed, reduce costs, and improve administrative efficiency. Nevertheless, these benefits may come at the expense of transparency, participation, and accountability. Sheehy and Ng observed that governments increasingly embrace AI-driven decision-making because of its potential to improve public sector performance, yet such systems simultaneously create unprecedented challenges for administrative law and regulatory design (Sheehy & Ng, 2023). Luise and Coccozza similarly argued that artificial intelligence is transforming public administration by introducing new models of decision-making that prioritize efficiency and predictive capacity (Luise & Coccozza, 2025). However, the findings of the present study suggest that efficiency alone cannot serve as the primary criterion for evaluating administrative decisions. Administrative legitimacy depends upon balancing efficiency with procedural safeguards and protections for citizens' rights. Therefore, the challenge facing modern administrative law is not whether AI should be adopted, but how it can be integrated without undermining the fundamental values upon which public administration is based.

The findings also reveal that traditional mechanisms of judicial review face significant difficulties when applied to algorithmic decisions. Courts and administrative tribunals have historically relied upon access to decision-making rationales, documentary evidence, and identifiable decision-makers. In algorithmic environments, these assumptions are increasingly problematic. The reviewed studies suggest that judicial institutions may struggle to evaluate decisions generated by opaque and highly complex systems. This finding corresponds with Suksi's analysis of administrative due process, which highlighted the procedural difficulties associated with automated decision-making and emphasized the need for safeguards that preserve fairness and accountability (Suksi, 2021). Chau similarly argued that conventional standards of judicial review are insufficient for supervising algorithmic governance because courts often lack the technical expertise and procedural tools necessary to assess AI-generated outcomes (Chau, 2025). These observations support the present study's conclusion that existing systems of judicial review require adaptation to remain effective in the era of algorithmic administration.

The weakness of current redress mechanisms emerged as another major theme in the findings. Although transparency and explanation have received increasing scholarly attention, the right to redress remains comparatively underdeveloped. Effective remedies require individuals to identify errors, challenge decisions, and obtain meaningful review. Yet the opacity of algorithmic systems frequently obstructs these processes. The findings indicate that many existing legal frameworks fail to provide adequate pathways for contesting AI-generated administrative decisions. This observation is consistent with the arguments advanced by Yeganegi and Afrooz, who emphasized the need for independent oversight mechanisms, auditing procedures, and accountability frameworks capable of addressing algorithmic harms (Yeganegi & Afrooz, 2025). Likewise, Hosseini and colleagues stressed that citizens must possess effective rights to challenge and appeal algorithmic decisions if AI is to be implemented responsibly within administrative systems (Hosseini et al., 2025). The present findings therefore suggest that strengthening redress mechanisms should become a priority in future regulatory reforms.

A further finding concerns the growing importance of regulatory frameworks in shaping the legitimacy of algorithmic governance. The reviewed literature demonstrates that legal systems increasingly recognize the need for specialized rules

governing AI-based decision-making. The European Union has emerged as a prominent example through its development of the GDPR and AI Act, both of which seek to establish standards for transparency, accountability, and human oversight. Ajibade's analysis of the GDPR highlights the significance of legal rights relating to automated decision-making and meaningful information about algorithmic logic (Ajibade, 2018). Gallone similarly argued that AI governance requires comprehensive regulatory frameworks capable of complementing existing legal institutions while addressing emerging technological challenges (Gallone, 2024). The findings of the present study reinforce these perspectives by demonstrating that legal legitimacy increasingly depends upon the existence of explicit regulatory safeguards rather than solely upon traditional administrative principles.

The comparative dimension of the reviewed literature further reveals that legal legitimacy in algorithmic governance depends heavily upon institutional context. Tangestani and Moradi emphasized that the legitimacy of algorithmic decisions cannot be evaluated solely according to technical performance but must also be assessed in relation to public law principles, human oversight, and accountability mechanisms (Tangestani & Moradi, 2025). Their comparative analysis of digital governments demonstrated that technological innovation must be accompanied by corresponding legal and institutional reforms. This finding is echoed by Hosseini and colleagues, who highlighted the importance of adapting international experiences to local legal environments while recognizing the specific challenges facing developing regulatory systems (Hosseini et al., 2025). The present study therefore supports the view that successful AI governance requires context-sensitive approaches rather than simple transplantation of foreign legal models.

Another notable finding concerns the broader ethical and social implications of algorithmic administration. The reviewed studies repeatedly warn that AI systems may reproduce or intensify existing inequalities when trained on biased datasets or deployed without adequate safeguards. These concerns extend beyond technical performance and encompass fundamental questions of fairness, equality, and democratic legitimacy. Yeganegi and Afrooz emphasized the risks of algorithmic discrimination and unequal treatment, particularly in areas involving public resource allocation and administrative decision-making (Yeganegi & Afrooz, 2025). Sawicki similarly highlighted the ethical challenges associated with algorithmic governance, including concerns regarding fairness, bias, and accountability (Sawicki, 2025). These findings indicate that the governance of AI must address not only legal compliance but also broader social consequences affecting vulnerable populations and democratic institutions.

Finally, the results demonstrate that transparency and accountability depend not only on legal rules but also on organizational culture and institutional capacity. The reviewed literature repeatedly emphasizes that legal reforms will be ineffective if public institutions lack the expertise, resources, and commitment necessary to implement them. Krook and colleagues argued that transparency governance requires a comprehensive organizational approach that integrates technical, legal, and cultural dimensions (Krook et al., 2025). Similarly, Luise and Coccozza emphasized the importance of capacity building within public administration to ensure that AI systems are deployed responsibly and transparently (Luise & Coccozza, 2025). The present findings support these conclusions by demonstrating that successful implementation of AI governance frameworks depends upon institutional readiness, professional training, and the development of accountability-oriented administrative cultures.

This study has several limitations that should be acknowledged. First, the systematic review relied on a relatively limited number of studies that met the inclusion criteria, reflecting the emerging nature of research on AI and administrative law. Second, the reviewed literature was primarily conceptual and normative, with comparatively few empirical investigations examining the practical effects of algorithmic decision-making on citizens and administrative institutions. Third, differences among legal systems, regulatory environments, and administrative traditions may limit the generalizability of some findings. Finally, the rapid pace of technological development means that legal and regulatory discussions may evolve quickly, potentially affecting the long-term applicability of current conclusions.

Future studies should conduct empirical investigations into the real-world implementation of AI-based administrative decision-making systems and their effects on citizens' rights. Comparative research examining different regulatory approaches across jurisdictions would provide valuable insights into effective governance models. Researchers should also explore the practical effectiveness of explainability tools, algorithmic auditing mechanisms, and judicial review procedures in administrative contexts. Additional attention should be devoted to measuring public perceptions of algorithmic governance,

evaluating the impact of AI on vulnerable populations, and developing interdisciplinary frameworks that integrate legal, technological, ethical, and organizational perspectives.

Public institutions should establish clear transparency standards for AI systems used in administrative decision-making and ensure that citizens receive understandable explanations for decisions affecting their rights. Governments should create independent oversight bodies capable of conducting algorithmic audits and monitoring compliance with accountability requirements. Administrative agencies should invest in training programs that enhance the technological literacy of judges, regulators, and public officials. Policymakers should adopt human-in-the-loop approaches that preserve meaningful human oversight over automated decisions. Finally, public administrations should foster organizational cultures that prioritize accountability, fairness, and citizen-centered governance throughout the design, deployment, and evaluation of AI systems.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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