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Administrative Justice in Public-Sector Automated Decision-Making Governance: A Systematic Review

Abstract

Public authorities are increasingly embracing automated decision making (ADM). The literature on legal mandates, organizational practice, and citizen results is mixed. This systematic review assesses the conceptualization of accountability, transparency, supervision by humans, and administrative justice in public sector ADM by scholarship and how protections are operationalized. The search in Scopus (PRISMA method) resulted in 122 entries and 56 qualifying full-text papers. The archive is dominated by doctrinal and socio-legal research (28/56) and European contexts (31/56). Conceptual and case studies are many but empirical qualitative [7] and quantitative [5] are limited. The gap between ideals and implementation is stark: literature describes more than safeguards for review, correction, and repair ADM governance ideals. Three conflicts are clearly emerging: formal accountability versus diffused responsibility, formal transparency versus useable cures, and formal oversight by humans versus intervention capacity. A four-layer diagnostic methodology is proposed: system traceability, administrative capability, institutional responsibility, and citizen-facing remedies. Cross-layer dependency matters: safeguards cannot work without complementary records, authority, review capability, or accessible remedies.

Keywords: administrative justice; algorithmic accountability; automated decision-making; public administration; reviewability

Introduction

Automated decision-making (ADM) is no longer an issue of digital governance but one of public administration. More and more public agencies adopt systems that sort applicants, prioritize cases, recognize risks, suggest conclusions, assist in implementation, or even make decisions, using algorithms and artificial intelligence. These systems contribute to speed and efficiency, but they are used in the sphere of the activity of government, where authority is exercised, benefits are distributed,

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obligations are created, and access to public services is regulated. Therefore, the governance problem transcends the correctness of these automated decisions to the legality, contestability, accountability, and fairness of their processing (Engstrom & Ho, 2020; Kuziemski & Misuraca, 2020; Long & Gil-Garcia, 2023; Rizk & Lindgren, 2025).

Public sector ADM changes in the location and identification of discretion. The decision can be affected by data selection, model architecture, threshold levels, procurement choices, user interface design, organizational practices, and actions of front-line personnel. It can also impact the manner in which reasons are provided, the kinds of records that are maintained, and the capacity of an affected person, auditor, regulator, ombuds institution, or court to reconstruct and contest the decision-making process (Cobbe & Singh, 2020; Roehl, 2023; Suksi, 2021; Tomlinson, 2020). Street-level bureaucracy (Bovens, 2007) illustrates that discretion is affected by workload and institutional constraints. Street-level bureaucracy shows how workload and institutional constraints affect discretion (Lipsky, 2010). Finally, public value and administrative burden perspectives link efficiency to legitimacy, operational capability, and the costs citizens incur when interacting with administrative systems (Moore, 1995; Moynihan et al., 2015).

The literature mentions several governance safeguards, such as transparency, explanation, auditability, oversight by humans, reason-giving, appeal, procurement controls, and external review (Agbabiaka et al., 2025; Bannister & Connolly, 2020; Carlsson, 2025; Geburczyk, 2021). However, the evidence supporting these safeguards remains inconsistent. Legal scholarship delineates legal duties, procedural rights, and accountability. However, there is little research on how these are operationalized in agencies and how they impact people affected by ADM. This gap matters. Where explanations are required or there is some process of appeal, these are not easy to understand or access. Furthermore, formal human review does not ensure that officials have sufficient resources to contest automated recommendations (Busuioc, 2021; Haitsma & Brink, 2025; König & Wenzelburger, 2021; Pesch, 2025; Weerheijm et al., 2026).

Literature often focuses on issues relevant to European administrative law and welfare systems. However, there is less evidence from the Global South, less capable administrations, procurement systems, immigration, border control, and everyday local government services (Brand, 2022; Chenou & Valenzuela, 2021; Hickok, 2024; Nalbandian, 2022). Institutions with strong systems for records and reviews already in place tend to discuss important topics such as effective reviews, procedural rights, administrative appeals, data protection, and algorithmic transparency. These protections are important, but we can not assume that they will work in different settings without looking at the local conditions that support their use. A recent systematic review illustrates how automated decision-making transforms the exercise of discretion by bureaucrats. This review focuses on administrative justice, the boundaries of evidence, and the required connections within institutions to offer effective safeguards (Putri & Syahrina, 2026).

In this context, the review tackles four key questions:

1. What is the definition of ADM in the public administration literature?
2. What governance safeguards are proposed or considered for improving accountability, transparency, and administrative justice?
3. How do risks and safeguards vary across policy domains, jurisdictions, and types of ADM systems?
4. What are the remaining theoretical, methodological, and empirical gaps in the field?

The review not only lists answers as themes but also explores the composition and content of the evidence to assess what is well understood in the field, what is understood mainly at a normative level, and what is poorly demonstrated in practice.

The article contains three interdependent sections. The first outlines a normative-implementation asymmetry in public sector ADM research. Scholars have eloquently described the constructs of accountable and procedurally fair governance. However, they have failed to provide evidence on whether such constructs affect administrative behavior or citizen outcomes. The second section outlines three separate, yet related, issues between formal safeguards and their operationalization. These are: formal accountability versus informal responsibility, formal transparency versus workable review and remedy, and formal human oversight versus operational capacity to intervene. The third section describes a four-layer model of administrative justice built from the relationships among the traceability of systems, administrative actions, institutional answerability, and citizen-centered remedies. The model focuses on the relationships between the elements involved, rather than their causality, to show how seemingly adequate safeguards may fail due to a lack of complementary resources elsewhere. The Methods section describes the review design and the evidence relevant to the review. The Results and Discussion sections provide a description of the review and a framework based on the results. The final sections describe the main findings and limitations, areas for future research, and overall implications.

Methods

Review design

This study is a systematic review of the literature that uses a qualitative and interpretive approach, following the PRISMA 2020 guidelines (Page et al., 2021). We did not use a meta-analysis because the studies we reviewed included different types of work, such as doctrinal legal analysis, socio-legal research, conceptual public administration studies, qualitative studies, quantitative studies, and review articles. Each included study served as the unit of analysis. This review combines arguments, institutional arrangements, observed practices, and reported attitudes instead of trying to find a common effect from an intervention. We did not count contextual public-administration sources used to explain the findings among the 56 studies included.

Search Strategy and Scope Boundaries

The Scopus search was conducted on May 3, 2026, chosen for its relevance to public administration, law, technology, and governance studies. The exact Scopus query was: TITLE-ABS-KEY ((“automated decision-making” OR “algorithmic decision-making” OR “automated decision system*” OR “algorithmic decision system*” OR “AI-enabled decision-making”) AND (“public administration” OR “public sector” OR “government agenc*” OR “administrative decision*” OR “public service*”) AND (accountab* OR transparen* OR explainab* OR “human oversight” OR “human-in-the-loop” OR liability OR audit* OR reviewab* OR “due process” OR “administrative justice” OR “right to explanation”)) AND PUBYEAR > 2019 AND PUBYEAR < 2027. The 2026 coverage is partial because the search was executed on May 3, 2026.

To be eligible, the work had to substantially focus on ADM, algorithmic decision-making, automated decision systems, AI-driven decision-making, or algorithmic governance in public administration, administrative law, governmental entities, or public services and address at least one governance issue, including accountability, transparency, explainability, oversight by humans, auditability, due process, administrative justice, equity, privacy, trust, or eva-

luation. The study examined journal articles and reviews in English that were allocated to certain Scopus subject areas. We excluded research in private industries, general discourses on AI ethics not focused on public sector ADM, and mainly technical machine-learning studies. This means that the selected articles are representative of the peer-reviewed scholarly debates. This review will not consider any existing knowledge on the topic, including gray literature, policy directives, conference proceedings, non-English studies, and any content indexed elsewhere. Table 1 summarizes the database, publication timeline, format restrictions, subject focus, and boundaries used to define our review collection.

Eligibility, Selection, and Retrieval

We had 122 entries to start our investigation. The application of the Scopus filters resulted in the exclusion of 48 records and 74 records for review. Five records were rejected because they did not fit the main focus or were too technical. We then identified 69 reports for full-text retrieval. Unfortunately, 13 of these were not obtainable. This left us with 56 full-text reports to assess for eligibility and final synthesis. After reviewing these, we did not exclude any reports. We handled the retrieval failures separately from those reports that were not eligible. We audited the metadata of the 13 unavailable reports, looking at the year, journal, title, abstract, jurisdiction, and design without drawing conclusions about their findings. The missing reports included six legal or socio-legal articles, two quantitative studies, and five conceptual or review articles. Five were related to Europe, one to Nigeria, one to China, one to an Australian administrative-law setting, and five were cross-regional or not specific to a jurisdiction. Their absence may strengthen the European legal focus and reduce empirical variety, but we cannot estimate the extent of the resulting bias. Figure 1 summarizes the identification, screening, retrieval, eligibility, and inclusion processes.

Data Extraction, Coding, and Comparative Synthesis

Systematic data collection was performed around key elements, including bibliographic details, jurisdiction, region, policy domain, study design, public sector setting, type of ADM, and level of automation. We also looked at decision functions and their consequences, the theoretical or legal framework, identified risks, accountability mechanisms, transparency and explanation, human oversight, review processes, appeal options, remedies, auditability, quality appraisal, and notes on evidence. The four RQs were used to guide four related tasks: describing forms and uses of ADM; identifying proposed or tested safeguards; comparing differences across methods, jurisdictions, policy areas, and levels of automation; and finding unresolved questions in theory, research methods, and empirical studies. This organization helped in synthesizing the information instead of creating separate summaries for each extraction field.

Coding was performed in two stages, moving from descriptive to analytical themes for thematic synthesis (Thomas & Harden, 2008). First, non-exclusive codes could govern studies on accountability, transparency, explainability, oversight by humans, due process, administrative justice, trust, fairness, privacy, institutional capacity, procurement, policy domain variation, regulation, and reviewability or auditability. The codes were grouped into six higher-order

Table 1. Search strategy and review boundaries

Item	Specification
Database and export date	Scopus. May 3, 2026.
Publication window	2020-2026; 2026 total is partial at the search date.
Included formats	English language journal articles and reviews
Subject areas	Social Sciences; Business, Management and Accounting; Computer Science; Decision Sciences
Substantive scope	Public-sector ADM involving accountability, transparency, explainability, oversight, audit, review, due process, administrative justice, fairness, trust, privacy, or institutional governance
Interpretive boundary	Peer-reviewed academic discussion within the search design Gray literature, policy guidance, conference papers, non-English scholarship and materials indexed elsewhere are outside the corpus

Source: Authors' synthesis (2026)

themes for traceability. Transparency showed system usage, data, rules, or organizational procedures; explainability explained a particular output; reviewability allowed reconstruction and challenge of decision-making; auditability ensured evaluation against legality, fairness, risk, or performance criteria; accountability was answerability and consequences; due pr Full texts were independently reviewed by a second author using the operational codebook. The main analytical focus was initially agreed upon in 41 of the 56 studies (73.2%; Cohen's kappa =.62). A renewed detailed review of the texts, written rationales, and collaborative adjudication resolved the 15 disagreements while maintaining the secondary codes. Each study was assigned a primary evidentiary mode using an explicit decision rule to resolve ambiguity in cross-design comparison: doctrinal/socio-legal, where the principal inference was drawn from legal sources, cases, or regulatory interpretation; conceptual/theoretical, where the contribution primarily developed arguments or frameworks from existing scholarship, including case-based analytical papers without original empirical data; and qualitative. Mixed studies were assigned by their main conclusion's evidentiary mode, while secondary features were kept in the extraction matrix.

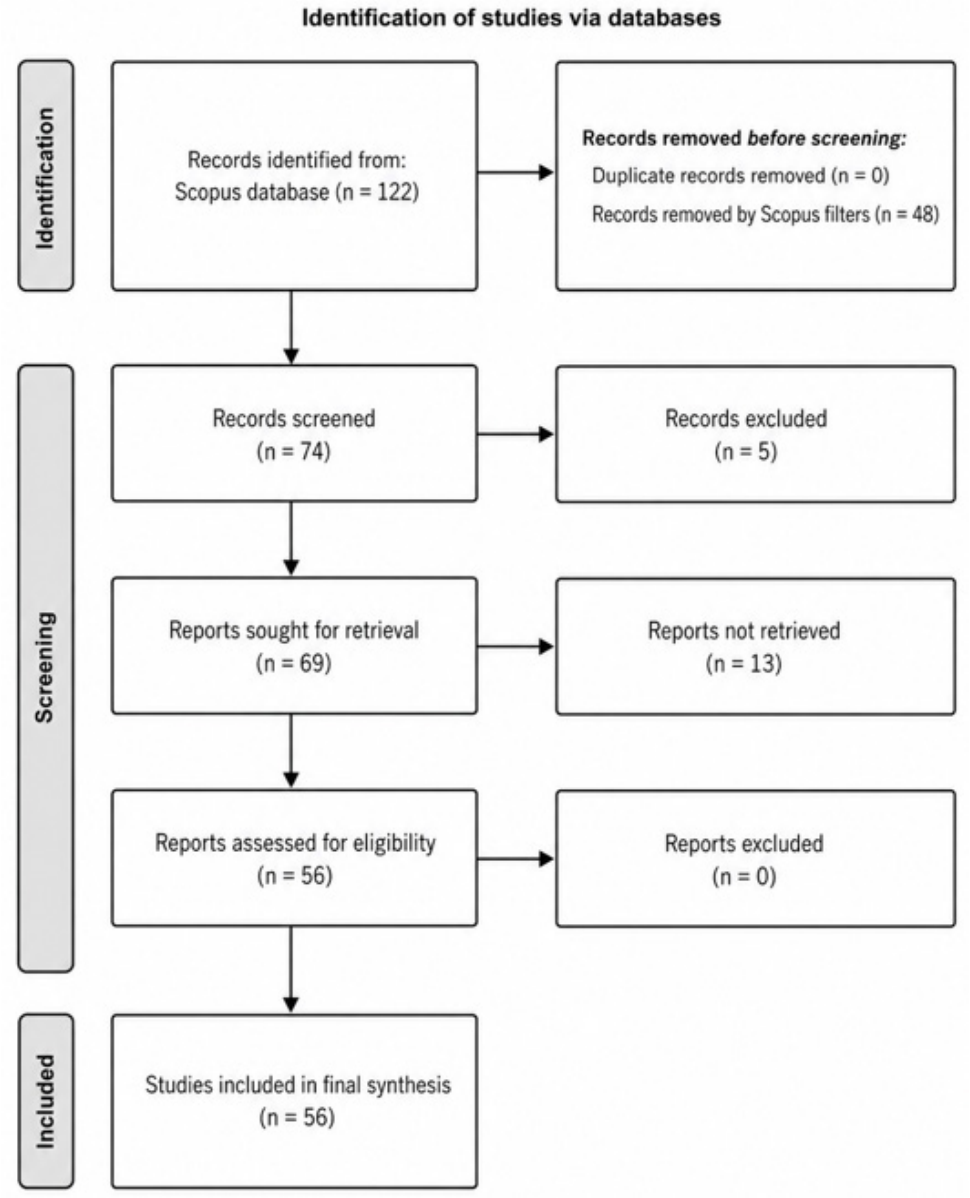


Figure 1. PRISMA 2020 flow diagram of the study selection
Source: Authors' synthesis (2026)

Design-Sensitive Quality Appraisal

The quality appraisal was design-based and aimed to examine claims, not exclude studies. All studies were rated for source and data transparency, analytical traceability, quality of evidence, suitability of methods, and specific design criteria. This led to the following classifications: 26 studies rated high, 28 rated medium-high, two rated medium, and none rated low. We did not rank these labels across different types of evidence. For example, a thorough legal study can provide strong evidence about specific legal duties in a jurisdiction but cannot show if the safeguards are effective in practice. Similarly, a high-quality survey can support claims about people's attitudes or preferences but does not establish if appeals produce correction. Throughout the synthesis, evidence type and quality were therefore reported separately. Detailed study-level characteristics and appraisal decisions are provided in the Supplementary Material.

Results and Discussion

Corpus Profile and Evidentiary Boundaries

The collection of 56 studies is recent and methodologically varied. The number of studies published increased significantly in 2024 and 2025; the count for 2026 is incomplete because the search ended on May 3. Among these studies, 28 are socio-legal, 11 are theoretical or conceptual (including those analyzing cases without original data), seven use qualitative methods, five use quantitative methods, and five are reviews. Of these studies, 16 are of general legal issues or multiple regions, 9 are of other setting areas, and 31 are in Europe. The collection provides a wealth of information on legal duties, accountability structures, reasons for decisions, review processes, and procedural safeguards. However, it provides less information on the implementation of the laws, citizens' use of their rights, and the effectiveness of governance mechanisms.

This study is important for analysis and not just a limitation. The analysis will be focused depending on the research design. Of the 28 studies on legal topics, 11 focus on accountability, 8 on transparency, and 9 on due process or fairness. In contrast, all five quantitative studies look mainly at trust or legitimacy. The seven qualitative studies are more useful for organizational practice, distributed responsibility, and human involvement, but they are specific to their contexts. This pattern indicates that both accountability and procedural safeguards are important and influenced by the main ideas in current literature. The review does not fully disentangle these two influences, but it does reveal how they inform what the field can currently claim.

The Normative-Implementation Asymmetry

The key finding is a normative-implementation asymmetry between what public sector ADM governance should provide and much more limited evidence about whether those arrangements achieve their intended effect in administrative practice. Research has identified the elements of good governance, which should include clear responsibilities, legal authority, proper records, understandable reasons, fair procedures, the ability to review decisions, meaningful human involvement, non-discrimination, and options for remedies. But there is much less evidence about whether these systems work in practice as they are intended to.

This contrast becomes more evident when we consider the purpose of each research design independently. Legal or doctrinal studies set up or contest legal obligations and procedural rules. Conceptual studies provide the context for structuring governance issues and proposed mechanisms. Qualitative studies seek to understand how organizations work and setting-specific boundaries. Quantitative studies have primarily focused on people's views, preferences, and perceptions of legitimacy. No one type of evidence is inherently better than another, but each type supports a different type of inference.

This distinction changes how we should look at a number of important protections. However, a legal obligation to explain decisions does not mean that the reasons given are clear to the person affected by them. Transparency or algorithm registers can make the use of a system visible, but they do not guarantee that anyone can reconstruct a disputed decision. Formal rights of appeal may exist, but the practical difficulties of exercising them are still considerable. However, formal appeal mechanisms may be difficult to use because of learning costs, compliance costs, time costs, and psychological costs. Even when human review is

integrated into the workflow, officials may lack the authority, technical knowledge, time, or institutional protection to question automated suggestions. Audits can also identify problems, but there is no guarantee that those problems will result in changed actions or remedies for those affected. Overall, the literature archive is strongest on the existence and rationale of protection, moderate on context-bound organizational mechanisms and citizen attitudes, and weakest on the complete sequence from protection design to review, correction, and remedy. The weakest link is the entire process from designing safeguards to reviewing, correcting, and providing remedies.

We have an imbalanced view of accountability and trust that can help explain why counting occurrences alone is misleading. In algorithm-run systems, accountability often arises because it is often difficult to determine who is responsible. Accountancy is a major issue in both legal and academic contexts. However, trust is seldom observed but the primary focus of the data at hand. This creates a problem of some ideas being well explained, but not well measured, and others being well measured in terms of people's views but not well linked to actual decisions or disputes. These differences in evidence and their implications for analysis are summarized in Table 2.

Table 2. Evidence configurations and analytical implications

Evidence configuration	Corpus pattern	What it primarily illuminates	What it doesn't establish	Analytical implication
Doctrinal / socio-legal	28 studies; primary emphasis: 11 accountability, 8 transparency/explainability, 9 due process/administrative justice	Legal duties, procedural standards, responsibility, review, and jurisdiction-specific institutional requirements	Whether safeguards are used effectively or change citizen and agency outcomes	The field has detailed knowledge of what governance ought to require, but legal centrality also shapes the concepts most visible in the corpus
Conceptual / review (grouped for presentation)	16 studies combined (11 conceptual/theoretical or case-based analytical; 5 reviews)	Conceptual studies develop governance frameworks, risk categories, and propositions; reviews synthesize prior evidence across domains	Neither category, by itself, establishes implementation prevalence, effect size, or causal performance	Grouped only for presentational economy; conceptual and review evidence retain distinct inferential functions in the narrative
Empirical qualitative	7 studies	Organizational practice, implementation constraints, discretion, accountability, and human involvement in context	General prevalence or causal effects across agencies and jurisdictions	Qualitative evidence reveals how formal safeguards can become weak in organizational practice, but remains context-bound
Empirical quantitative	5 studies; all primarily trust/ legitimacy	Citizen attitudes, preferences, perceived fairness, effectiveness, and legitimacy	Observed use of appeal, correction, or remedy after real adverse decisions	Empirical measurement is comparatively stronger for stated acceptance than for contestation and remedy
European concentration	31 studies; strong emphasis on due process/administrative justice, accountability, and transparency	Governance under developed administrative-law and review architectures	Transferability to settings with different records, procurement, review access, or institutional capacity	The literature's model of effective governance may embed institutional assumptions that should be tested comparatively

Source: Authors' synthesis (2026).

One major problem is evidence. Legal studies primarily concern regulations, obligations, and the organization of institutions. Conversely, numerous empirical investigations focus on either organizational behaviors or public perceptions. Few studies, however, relate these two levels in a single analysis. This creates a gap between the design of institutions and what they actually provide. For example, one study might find a right to explanation, another might test whether citizens care about transparency, and a third might explain the difficulties that officials face when using automated systems. Yet, few studies follow a controversial decision through all three stages of the process. Therefore, we do not understand how a formal safeguard turns into a meaningful protection for the public. This gap motivates the cross-layer analysis discussed below.

Three Governance Tensions

Tension 1: Formal Accountability and Distributed Responsibility

The main issue is the tension between formal accountability and distributed responsibility. Public agencies come from many different sources. They are legally responsible for their decisions. It comprises data sources, models, software, procurement contracts, vendors, managers, front-line workers, auditors, regulators, and review bodies. Research on algorithmic accountability, corruption, liability, bureaucratic decision making, regulatory discretion, welfare automation, and procurement suggests that the issue is more complicated than simply finding the person who made the decision. The formal account holder may lack the information and authority to make decisions about design choices or operational conditions that lead to the outcome (Adelmant & Raso, 2025; AllahRakha, 2025; Busuioc, 2021; Cetina Presuel & Martinez Sierra, 2024; Engstrom & Ho, 2020; Hickok, 2024; Hirvonen, 2024; Langer, 2024; Novotná et al., 2026; Schmidt & Scott, 2021; Wieringa, 2023).

The actor-forum account of Bovens (2007) is helpful in understanding the distinction between formal accountability and actual answerability. Even if an agency cannot explain how certain models or automatic recommendations work, it might be held accountable. More automation means more discretion in street-level bureaucracy, data definitions and thresholds, and handling, verification, and overriding processes exceptions (Lipsky, 2010; Rizk & Lindgren, 2025). Procurement practices can also muddy accountability by restricting access to logs and audit privileges (Hickok, 2024). The data speaks to some shared responsibility but also raises problems about how to construct successful contracts or organizational structures for enforceable answerability.

Tension 2: Formal Transparency and Usable Review and Remedy

The second conflict is between formal transparency and usable review and remedy. The literature points to four important aspects: visibility, explanation, reconstruction and audit. Transparency: The availability of information about the use of systems, their rules, data, or the organization's operations. Explainability: The extent to which a particular outcome can be properly explained. Reviewability: The degree to which the broader decision-making process can be reconstructed and challenged; auditability: The degree to which a system or process can be audited for whether it operates in accordance with standards of legality, fairness, risk, or performance (Casado, 2023; Cobbe & Singh, 2020; Geburczyk, 2021; Olsen et al., 2024; Pilving, 2023; Reichel, 2023; Shen, 2026). These are related functions but are not interchangeable.

Transparency is a prerequisite for administrative justice, not a result of it. The algorithm register indicates that there is an ADM system without any description of a particular adverse judgment. Even a description that is technically true may be worthless if the affected persons cannot access the underlying information or if the review body does not have the authority to examine them. Audits can identify faults in the system but do not ensure that people will receive fixes. Research suggests that accessible records may be associated with understandable grounds for review, contestation, and remedy, but does not show that this happens consistently. The main problem is the gap between sharing information and what happens resulting from it: do people understand their situation from the information, does that understanding lead

to a review, does that review lead to corrections, and do these corrections change the behavior of organizations?

Tension 3: Formal Human Oversight and Administrative Capacity

The third tension is between the formal oversight by humans and the real administrative capacity to intervene. While many discussions refer to having a person in processes, the person in the workflow is not in itself meaningful oversight by humans. Intervention ability has been found to rely on variables such as understanding, discretion, legal authority, time, access to records, organizational support, independence, and the ability to modify or override an automated recommendation (Butler, 2025; Fischer-Abaigar et al., 2024; Haitsma & Brink, 2025; Nalbandian, 2022; Pesch, 2025; Roehl, 2023; Weerheijm et al., 2025). Otherwise, human review can become a formality: officials are nominally responsible but dependent on a system they did not design, procure, or understand.

This is especially true when it involves public administration. The very structure and workload of organizations can lead to thoughtful decisions being made into simply going through the motions. The design of the interface can bias what is seen as important by an official, and procurement and technical documents can constrain what can be queried. The present study is too small to conclude that human review consistently reduces errors, bias, or unlawful decisions. Perhaps it is more helpful to think of supervision as an organizational skill rather than something that is simply on or off. Important questions are how often overrides occur and why, how long reviews take, how available officials are to support records, what kind of escalations occur, how deviations are recorded, and who has responsibility for final decisions.

Policy Domains as Stress Tests of Governance

The three tensions work differently in different policy areas. Cases about welfare and social protection are especially instructive, as they raise questions about data sharing, profiling, vulnerability, and administrative burden. In these cases, being mis- or incorrectly classified can impact a person's ability to obtain important support. The affected person also has to bear the burden of finding the error, gathering records, and beginning an investigatory process. Studies of systems such as SyRI, Universal Credit, and automated welfare services show that formal transparency and formal appeal cannot be separated from data provenance, reason giving, legal certainty, and correction accessibility. We need to analyze the sources of the data, the level of transparency, transparency of rules, and ease of correction of mistakes (Adelmant & Raso, 2025; Appelman et al., 2021; Carlsson, 2025; Kaun et al., 2025; Rachovitsa & Johann, 2022; Wieringa, 2023). Welfare cases are used to stress test cross-layer dependency. When the evidentiary trail is thin or the administrative cost of using the remedy is high, the legal right to effectuate the outcome is weak.

Mistakes can result in substantial immigration, security, enforcement, and administrative penalties. This uncertainty about information could be caused by security concerns, limited access to information, or power imbalances between the government and those affected. The literature is concerned with legal certainty, proportionality, reason giving, procedural protection, and access to review. However, we lack sufficient evidence to demonstrate the frequency of human involvement affecting outcomes and the extent to which people can successfully challenge them (Hamuľáková & Horvat, 2026; Lengyel, 2025; Nalbandian, 2022; Sharaf Addin, 2025; Weerheijm et al., 2025). In these cases, the presence of a reviewing official alone does not guarantee meaningful oversight by humans. The real question is whether that official will be able to access the information needed to challenge the system and whether an outside review can evaluate both the ultimate decision and the path that led to it.

Automating routine in public services can be very difficult. Even those that seem to be of lower risk can create systemic problems when repeated procedural failures are replicated at scale. Research shows that the key issues are not just how much we automate, but also how we handle unique cases, manage exceptions, and keep good records for review (Long & Gil-Garcia, 2023; Roehl, 2023). This underscores the need to focus on day-to-day administrative tasks

rather than just headline algorithm failures. If officials can not explain exceptions or learn from mistakes, then a process is weak in administration, even if it is technically strong. Procurement affects accountability and the review of systems before deployment. Access to technical documents, performance data, audit rights, and vendor support is dictated by contractual and policy arrangements (Hickok, 2024; Jobberns & Guihot, 2024). Thus procurement is a matter of governance, not just an initial purchasing process. It means that procurement can be a way of releasing information to the reviewers in administration and institutions or of hiding it. Differences between sectors should not lead to the conclusion that each one needs a totally different set of safeguards. Rather, these distinctions reveal in which places the three tensions are strongest and in which places cross-layer dependencies are prone to fail.

Administrative Justice and Institutional Embeddedness

These three tensions relate to administrative justice, but we should not think of administrative justice as a single universal institutional model. The scholarship discusses the concept in various ways. It refers to the rights to a hearing, reasons, review, and remedy. It also describes good administration principles and lawful procedures. Additionally, it examines the accessibility of contestation through courts, tribunals, ombuds institutions, and internal agency reviews (Csatlós, 2025; Gontarz, 2023; Hubková, 2024; Sanchez-Graells, 2024; Suksi, 2021; Tomlinson, 2020). Mashaw's (1983) account of bureaucratic justice is useful precisely because it shows that accuracy, professional judgment, participation, and administrative rationality can pull in different directions. ADM does not remove these tensions; it can intensify them by compressing procedural stages and redistributing discretion.

In this review, administrative justice serves as an integrative evaluative criterion, focusing on transparency and explainability concern information, accountability concerns answerability and consequences, meaningful human oversight concerns official's capacity to exercise judgment and intervene, and due process concerns procedural entitlement. It considers whether these elements as a whole enable affected persons to obtain a fair process, understand the basis of the decision, challenge it before an institution with appropriate authority, and obtain correction or remedy where warranted. This framework does not require the same institutions across jurisdictions but does require the relevant review architecture to be specified and the surrounding protection to be operable within that architecture.

The distribution of the studies is important, as most of the studies are from Europe. 31 studies are European out of 56 studies. European studies have focused on due process and administrative justice. Consequently, the vocabulary of effective ADM governance in the literature is often developed in contexts where the formal rights of appeal, data-protection institutions, ombuds mechanisms, administrative records, and judicial review are comparatively visible in scholarship (Jančát, 2025; Rudolf & Kovač, 2024). The problem is that the results may not be easily generalizable beyond Europe. More fundamentally, the meaning of an apparently effective safeguard may depend on institutional complements that the literature sometimes takes for granted. An explanation is of different value when records are incomplete, appeal rights vary when review institutions are inaccessible, and audit requirements operate differently when agencies lack procurement leverage or technical capacity.

This is an example of how to look at geographic imbalances. Institutionalism posits that governance mechanisms are grounded in rules, routines, professional norms, and established administrative arrangements (Scott, 2014). Collaborative-governance perspectives are also relevant when agencies and private vendors partner to co-produce system design, information access, and operational control (Ansell & Gash, 2008). Research in Indonesia, Southeast Asia, and other lower-capacity administrative settings matters not only because these contexts are underrepresented but because they can test which institutional complements are required for protection safeguards to transfer across settings. Comparative studies should help clarify the architecture of the review, the systems for recording, the procurement capacity, the professional support, and the digital infrastructure needed for administrative justice.

Cross-Layer Dependency: A Diagnostic Alignment Framework

The synthesis supports a four-layer ADM governance alignment framework, which emphasizes the cross-layer dependency, not only the existence of governance at multiple levels. The system layer is concerned with data provenance, models, documentation, logs, histories, and reconstructable inputs and outputs. The administrative layer concerns itself with how officials make use of outputs, use discretion, provide reasons, manage exceptions, and record overrides. The institutional layer distributes responsibility and oversight among agencies, vendors, auditors, regulators, courts, and procurement bodies. Finally, the citizen-facing layer deals with notice, explanation, participation, appeal, correction, and remedy. Boundary conditions encompass legal customs, administrative proficiency, procurement competence, implications of choices, and avenues for review.

However, a safety measure can be rendered ineffective by gaps in other areas. The transparency of administrative justice is limited if the records do not include the case-specific reasons for decisions and citizens cannot reach the institution for access to review the decision. Weak appeal rights arise when system logs do not allow reconstructing how the outcome was produced and oversight by humans is insufficient when officials lack the authority, time, competency, or documentation to deviate from automated outputs. If findings are not linked to accountable institutions that can demand change, the audit can be reduced to a technocratic inspection. Conversely, contestation that is accessible can be useful, providing feedback about data issues, model errors, or procedural failures that require organizational or technical changes.

Figure 2 shows the proposed dependencies and feedback loops. These are presented in Table 3 as empirically testable propositions arising from the synthesis. The framework does not present a universal causal sequence and should not be read as a validated theory. It makes a diagnostic contribution: it focuses our attention on the points at which formal safeguards can become decoupled from administrative justice and directs empirical research to the institutional channels through which safeguards become usable or remain symbolic.

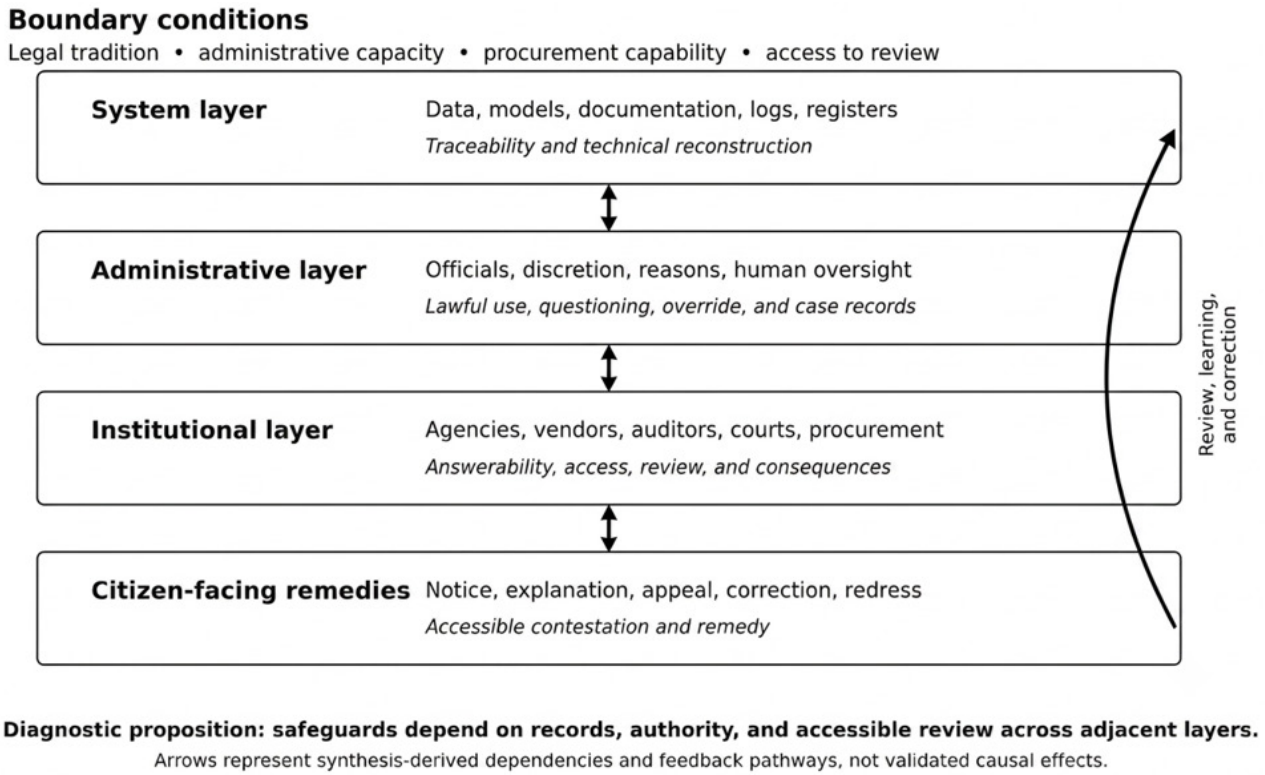


Figure 2. Four-Layer ADM Governance Alignment Framework
Source: Authors' synthesis (2026)

Implications for Research and Practice

The paper cautions against an uncritical view of the practical implications and safeguards suggested. There are three types of protection: First, in some jurisdictions, some protections are legally required. These include the duty to make lawful decisions, give reasons, ensure procedural fairness, and provide access to review. However, these might not be empirically tested for their practical effectiveness. Second, some mechanisms are context-dependent, particularly in terms of the constraints of human supervision and public perceptions of fairness, transparency, and trust in institutions (Arnesen et al., 2025; Bodó & Janssen, 2022; Denk et al., 2022; König et al., 2024; Zheng et al., 2026). Third, many of the mechanisms discussed – such as algorithm registers, impact assessments, specific audit arrangements, and various procurement protections – have good reasons behind them, but little evidence of real-world effects in the cases studied.

Public managers and policy-makers should separate compliance from evaluation. Agencies should determine what performance is to be measured, understanding that legal requirements regarding reasons, records, reviews, and procedural protections are also assumed to be governance systems. Key results to be measured include public awareness of notices, initiation and resolution of appeals, effect of reviews on decisions, correction of recurring errors, use of override authority, and effect of audit or procurement arrangements on access to information and organizational behavior. This evidence-based approach is summarized in Table 4.

Limitations and Future Research

This synthesis has several limitations. First, we only used Scopus, focusing on English-language journals, which excluded valuable non-English research, books, conference papers, and grey literature. Second, we could not retrieve 13 reports, metadata indicate that missing set contains empirical work as well as non European setting, so their absence may reinforce the legal European composition of final literature. Although the direction and magnitude of the resulting bias cannot be calculated. Additionally, our theme categorization relies on interpretation, despite a second-author review process. Quality labels help assess evidence but do not eliminate differences between evidence types and should not be interpreted as comparated measure effect strength. Consequently, while we can draw strong conclusions about recurring governance issues, institutional dependence, and normative requirements, our conclusions regarding the effectiveness of safeguards, citizen outcomes, and broader causal effects are weaker.

Table 3. Diagnostic content and testable cross-layer propositions

Layer	Governance function	Typical disconnection	Synthesis-derived proposition for testing
System	Preserve data provenance, documentation, versions, logs, and reconstructable inputs and outputs	Opacity, undocumented change, weak records, poor data quality	More complete and accessible records may increase the capacity of officials and reviewers to reconstruct a disputed decision
Administrative	Enable lawful use, contextual judgment, reason-giving, exception handling, and documented override	Automation bias, rubber-stamping, concealed discretion, weak reasons	Override authority is more likely to be meaningful when officials have time, competence, records, and organizational protection for documented departures
Institutional	Allocate answerability, audit access, procurement duties, review authority, and consequences	Vendor opacity, fragmented responsibility, weak audit access, unclear liability	Answerability may improve when agencies retain relevant information and enforceable audit, access, and review rights
Citizen-facing	Provide notice, intelligible reasons, participation, appeal, correction, and remedy	Administrative burden, inaccessible review, uncorrected error	Transparency is more likely to support correction when affected persons can understand the notice and reach an institution with authority to change the outcome

Source: Authors' synthesis (2026)

Table 4. Evidence-calibrated interpretation of governance safeguards

Evidence status	Examples in the corpus	Appropriate practical interpretation
Legally or normatively established	Lawful authority, reason-giving, procedural fairness, review and remedy where required by the applicable legal system	Treat as jurisdiction-specific duties or standards; don't infer effectiveness solely from formal existence
Context-bound empirical support	Organizational constraints on human oversight; citizen perceptions of fairness, transparency, effectiveness, and trust	Specify context and measure actual use, override, review, and citizen experience before generalizing
Plausible but insufficiently evaluated	Algorithm registers, impact assessments, many audit designs, and procurement or vendor safeguards	Adopt only with clear governance rationale and evaluate whether they change scrutiny, decisions, correction, or organizational conduct

Source: Authors' synthesis (2026)

Future research should target specific pathways in the Global South rather than general calls for more empirical studies. Agency-level investigations can test when officials accept, question, or override ADM outputs and whether documented departures affect the result. Citizen-centered research can trace the workflow from notice and explanation to appeal, abandonment, resolution, and correction. While, recording time costs and learning, compliance and psychological burdens. In procurement, we can investigate how contracts distribute access to data, logs, model updates, audit rights, and liability between agencies and vendors. Comparing these factors in Indonesia, Southeast Asia, and other institutionally different conditions will improve our understanding of how record systems, access to ombuds/tribunals, judicial review, professional support, procurement capability, and digital infrastructure requirements affect the transfer of safeguards. Long-term studies are needed to determine whether audits change an organization in a meaningful way, and not just as a temporary fix.

Conclusion

This review demonstrates that scholarship on public-sector ADM has provided a more sophisticated account of what accountable and procedurally fair governance should require, but weaker evidence as to whether those safeguards work in administrative practice. This imbalance is no accident. The preponderance of doctrinal and socio-legal research may account for the broad elaboration of legal duties, transparency, accountability, and procedural safeguards, while the relatively thin empirical literature indicates less evidence on organizational implementation, citizen use of remedies, and downstream correction. Three tensions make up this gap: formal accountability can coexist with distributed responsibility, formal transparency may not lead to usable review or remedy, and formal oversight by humans may coexist with a lack of administrative capacity to intervene.

Administrative justice helps us understand these tensions by examining informational, organizational, corrective, and remedial aspects. This is supported by the Four-Layer ADM Governance Alignment Framework, which connects system traceability with administrative action, accountability, institutional answerability, and citizen redemption. The point is that cross-layer dependency means that individual safeguards can remain in place without the corresponding records, authority, review capacity, or redemption being available elsewhere. It is a framework for hypothesis generation and problem diagnosis, not for showing cause and effect relationships.

The next empirical task is not to make longer lists of safeguards but to test the links between them. We need evidence about whether explanations lead to usable reviews, whether oversight by humans alters decisions, whether appeals lead to correction, whether audits change agency behavior, and whether institutional learning feeds back into systems and procedures. This kind of research will lay the point of departure from formal compliance to administrable justice in ADM governance.

References

Adelmant, V., & Raso, J. (2025). Data entry and decision chains: Distributed responsibility and bureaucratic disempowerment in the UK's Universal Credit programme. *Oxford Journal of Legal Studies*, *45*(2), 415–446. https://doi.org/10.1093/ojls/gqaf006

Agbabiaka, O., Ojo, A., & Connolly, N. (2025). Requirements for trustworthy AI-enabled automated decision-making in the public sector: A systematic review. *Technological Forecasting and Social Change*, *215*. https://doi.org/10.1016/j.techfore.2025.124076

AllahRakha, N. (2025). AI and corruption: Legal liability in algorithmic decision-making. *Access to Justice in Eastern Europe*, *8*(3), 303–326. https://doi.org/10.33327/AJEE-18-8.3-a000120

Ansell, C., & Gash, A. (2008). Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory*, *18*(4), 543–571. https://doi.org/10.1093/jopart/mum032

Appelman, N., Ó Fathaigh, R., & van Hoboken, J. (2021). Social welfare, risk profiling and fundamental rights: The case of SyRI in the Netherlands. *Journal of Intellectual Property, Information Technology and E-Commerce Law*, *12*(4), 257–271.

Arnesen, S., Broderstad, T. S., Fishkin, J. S., Johannesson, M. P., & Siu, A. (2025). Knowledge and support for AI in the public sector: A deliberative poll experiment. *AI & Society*, *40*, 3573–3589. https://doi.org/10.1007/s00146-024-02104-w

Bannister, F., & Connolly, R. (2020). Administration by algorithm: A risk management framework. *Information Polity*, *25*, 471–490. https://doi.org/10.3233/IP-200249

Bodó, B., & Janssen, H. (2022). Maintaining trust in a technologized public sector. *Policy and Society*, *41*(3), 414–429. https://doi.org/10.1093/polsoc/puac019

Bovens, M. (2007). Analysing and Assessing Accountability: A Conceptual Framework. *European Law Journal*, *13*(4), 447–468. https://doi.org/10.1111/j.1468-0386.2007.00378.x

Brand, D. J. (2022). Responsible artificial intelligence in government: Development of a legal framework for South Africa. *eJournal of eDemocracy and Open Government*, *14*(1), 130–150. https://doi.org/10.29379/jedem.v14i1.678

Busuioc, M. (2021). Accountable artificial intelligence: Holding algorithms to account. *Public Administration Review*, *81*(5), 825–836. https://doi.org/10.1111/puar.13293

Butler, O. (2025). Algorithmic decision-making, delegation and the modern machinery of government. *Oxford Journal of Legal Studies*, *45*(3), 727–752. https://doi.org/10.1093/ojls/gqaf018

Carlsson, V. (2025). Legal certainty in automated decision-making in welfare services. *Public Policy and Administration*, *40*(2), 302–321. https://doi.org/10.1177/09520767231202334

Casado, E. G. (2023). Automated decision-making systems in Spanish administrative law. *CERIDAP*, *2023*(1), 24–40. https://doi.org/10.13130/2723-9195/2023-1-119

Cetina Presuel, R., & Martinez Sierra, J. M. (2024). The adoption of artificial intelligence in bureaucratic decision-making: A Weberian perspective. *Digital Government: Research and Practice*, *5*(1). https://doi.org/10.1145/3609861

Chenou, J.-M., & Valenzuela, L. E. R. (2021). Habeas data, habemus algorithms: Algorithmic intervention in public interest decision-making in Colombia. *The Law, State and Telecommunications Review*, *13*(2), 56–77. https://doi.org/10.26512/lstr.v13i2.34113

Cobbe, J., & Singh, J. (2020). Reviewable automated decision-making. *Computer Law & Security Review*, *39*. https://doi.org/10.1016/j.clsr.2020.105475

Csatlós, E. (2025). Automation in action: Experience with quick and cost-efficient administrative decisions in Hungary. *Balkan Social Science Review*, *25*, 181–203. https://doi.org/10.46763/BSSR252525181c

Denk, T., Hedström, K., & Karlsson, F. (2022). Citizens' attitudes towards automated decision-making. *Information Polity*, *27*, 391–408. https://doi.org/10.3233/IP-211516

Engstrom, D. F., & Ho, D. E. (2020). Algorithmic accountability in the administrative state. *Yale Journal on Regulation*, *37*, 800–854.

Fischer-Abaigar, U., Kern, C., Barda, N., & Kreuter, F. (2024). Bridging the gap: Towards an expanded toolkit for AI-driven decision-making in the public sector. *Government Information Quarterly*, *41*. https://doi.org/10.1016/j.giq.2024.101976

Geburczyk, F. (2021). Automated administrative decision-making under the influence of the GDPR: Early reflections and upcoming challenges. *Computer Law & Security Review*, *41*. https://doi.org/10.1016/j.clsr.2021.105538

Gontarz, I. (2023). Judicial review of automated administrative decision-making: The role of administrative courts in the evaluation of unlawful regimes. *ELTE Law Journal*, *2023*(1), 151–162. https://doi.org/10.54148/ELTELJ.2023.1.151

Haitsma, L., & Brink, B. (2025). From human intervention to human involvement: A critical examination of the role of humans in (semi-) automated administrative decision-making. *Digital Government: Research and Practice*, *6*(3). https://doi.org/10.1145/3716173

Hamuľáková, Z., & Horvat, M. (2026). Artificial intelligence and administrative punishment [Umelá inteligencia a správne trestanie]. *Acta Universitatis Carolinae Iuridica*, *2026*(1), 65–84. https://doi.org/10.14712/23366478.2026.5

Hickok, M. (2024). Public procurement of artificial intelligence systems: New risks and future proofing. *AI & Society*, *39*(3), 1213–1227. https://doi.org/10.1007/s00146-022-01572-2

Hirvonen, H. (2024). Just accountability structures: A way to promote the safe use of automated decision-making in the public sector. *AI & Society*, *39*, 155–167. https://doi.org/10.1007/s00146-023-01731-z

Hubková, P. (2024). EU administrative decision-making delegated to machines: Legal challenges and issues. *Acta Universitatis Carolinae Iuridica*, *2024*(2), 101–119. https://doi.org/10.14712/23366478.2024.25

Jančát, L. (2025). Automation of processes in public administration in selected member states of the European Union [Automatizácia procesov vo verejnej správe vo vybraných členských štátoch Európskej únie]. *Studia Iuridica Cassoviensia*, *13*(Special Issue), 66–90. https://doi.org/10.33542/SIC2025-S-05

Jobberns, H., & Guihot, M. (2024). Digital governance and neoliberalism: The evolution of machine learning in Australian public policy. *Law, Technology and Humans*, *6*(2), 29–52. https://doi.org/10.5204/lthj.3408

Kaun, A., Larsson, A. O., & Masso, A. (2025). Automation scenarios: Citizen attitudes towards automated decision-making in the public sector. *Information, Communication & Society*, *28*(7), 1177–1194. https://doi.org/10.1080/1369118X.2024.2375261

König, P. D., Felfeli, J., Achtziger, A., & Wenzelburger, G. (2024). The importance of effectiveness versus transparency and stakeholder involvement in citizens' perception of public sector algorithms. *Public Management Review*, *26*(4), 1061–1082. https://doi.org/10.1080/14719037.2022.2144938

König, P. D., & Wenzelburger, G. (2021). The legitimacy gap of algorithmic decision-making in the public sector: Why it arises and how to address it. *Technology in Society*, *67*. https://doi.org/10.1016/j.techsoc.2021.101688

Kuziemski, M., & Misuraca, G. (2020). AI governance in the public sector: Three tales from the frontiers of automated decision-making in democratic settings. *Telecommunications Policy*, *44*. https://doi.org/10.1016/j.telpol.2020.101976

Langer, C. (2024). Decision-making power and responsibility in an automated administration. *Discover Artificial Intelligence*, *4*. https://doi.org/10.1007/s44163-024-00152-1

Lengyel, A. (2025). Automated decision-making in administrative penal matters [Automatizované rozhodovanie vo veciach správneho trestania]. *Studia Iuridica Cassoviensia*, *13*(Special Issue), 107–119. https://doi.org/10.33542/SIC2025-S-07

Lipsky, M. (2010). *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services* (30th Anniversary Expanded Edition). Russell Sage Foundation. https://www.russellsage.org/publications/book/street-level-bureaucracy

Long, Y., & Gil-Garcia, J. R. (2023). Understanding the extent of automation and process transparency appropriate for public services: The AI cases in Chinese local governments. *International Journal of Electronic Government Research*, *19*(1), 1–18. https://doi.org/10.4018/IJEGR.322550

Mashaw, J. L. (1983). *Bureaucratic Justice: Managing Social Security Disability Claims*. Yale University Press. https://yalebooks.yale.edu/book/9780300034035/bureaucratic-justice/

Moore, M. H. (1995). *Creating Public Value: Strategic Management in Government*. Harvard University Press. https://books.google.com/books/about/Creating_Public_Value.html?id=aSa4AAAAIAAJ

Moynihan, D. P., Herd, P., & Harvey, H. (2015). Administrative Burden: Learning, Psychological, and Compliance Costs in Citizen-State Interactions. *Journal of Public Administration Research and Theory*, *25*(1), 43–69. https://doi.org/10.1093/jopart/muu009

Nalbandian, L. (2022). Increasing the accountability of automated decision-making systems: An assessment of the automated decision-making system introduced in Canada's temporary resident visa immigration stream. *Journal of Responsible Technology*, *10*. https://doi.org/10.1016/j.jrt.2021.100023

Novotná, M., Adamová, Z., & Maslen, M. (2026). Public administration responsibility for the deployment of artificial intelligence [Zodpovednosť verejnej správy za nasadenie umelej inteligencie]. *Acta Universitatis Carolinae Iuridica*, *2026*(1), 111–132. https://doi.org/10.14712/23366478.2026.8

Olsen, H. P., Hildebrandt, T. T., Wiesener, C., Larsen, M. S., & Ammitzbøll Flügge, A. W. (2024). The right to transparency in public governance: Freedom of information and the use of artificial intelligence by public agencies. *Digital Government: Research and Practice*, *5*(1). https://doi.org/10.1145/3632753

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, *372*. https://doi.org/10.1136/bmj.n71

Pesch, P. J. (2025). Potentials and challenges of large language models (LLMs) in the context of administrative decision-making. *European Journal of Risk Regulation*, *16*(1), 76–95. https://doi.org/10.1017/err.2024.99

Pilving, I. (2023). Guidance-based algorithms for automated decision-making in public administration: The Estonian perspective. *CERIDAP*, *2023*(1), 51–74. https://doi.org/10.13130/2723-9195/2023-1-105

Putri, A. N., & Syahrina, A. (2026). Automated Decision-Making and the Transformation of Bureaucratic Discretion:A Cross-Sector Systematic Review of Empirical Evidence. *Policy & Governance Review*, *10*(2). https://doi.org/10.30589/pgr.v10i2.1391

Rachovitsa, A., & Johann, N. (2022). The human rights implications of the use of AI in the digital welfare state: Lessons learned from the Dutch SyRI case. *Human Rights Law Review*, *22*, 1–15. https://doi.org/10.1093/hrlr/ngac010

Reichel, J. (2023). Regulating automation of Swedish public administration. *CERIDAP*, *2023*(1), 75–94. https://doi.org/10.13130/2723-9195/2023-1-112

Rizk, A., & Lindgren, I. (2025). Automated decision-making in public administration: Changing the decision space between public officials and citizens. *Government Information Quarterly*, *42*. https://doi.org/10.1016/j.giq.2025.102061

Roehl, U. B. U. (2023). Automated decision-making and good administration: Views from inside the government machinery. *Government Information Quarterly*, *40*. https://doi.org/10.1016/j.giq.2023.101864

Rudolf, G., & Kovač, P. (2024). The role of automated decision-making in modern administrative law: Challenges and data protection implications. *Central European Public Administration Review*, *22*(2), 83–108. https://doi.org/10.17573/cepar.2024.2.04

Sanchez-Graells, A. (2024). Resh(AI)ping good administration: Addressing the mass effects of public sector digitalisation. *Laws*, *13*. https://doi.org/10.3390/laws13010009

Schmidt, R., & Scott, C. (2021). Regulatory discretion: Structuring power in the era of regulatory capitalism. *Legal Studies*, *41*, 454–473. https://doi.org/10.1017/lst.2021.13

Scott, W. R. (2014). *Institutions and Organizations: Ideas, Interests, and Identities* (4th Edition). SAGE Publications. https://ndlsearch.ndl.go.jp/en/books/R100000002-I024635595

Sharaf Addin, E. H. M. (2025). Reconciling administrative efficiency with procedural safeguards in the ADM system. *Bratislava Law Review*, *9*(2), 155–172. https://doi.org/10.46282/blr.2025.9.2.1116

Shen, P. (2026). Toward a proportionate explainability framework in administrative automated decision-making: A lesson from China. *Computer Law & Security Review*, *61*. https://doi.org/10.1016/j.clsr.2026.106307

Suksi, M. (2021). Administrative due process when using automated decision-making in public administration: Some notes from a Finnish perspective. *Artificial Intelligence and Law*, *29*, 87–110. https://doi.org/10.1007/s10506-020-09269-x

Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, *8*. https://doi.org/10.1186/1471-2288-8-45

Tomlinson, J. (2020). Justice in automated administration. *Oxford Journal of Legal Studies*, *40*(4), 708–736. https://doi.org/10.1093/ojls/gqaa025

Weerheijm, B., Galdames, M., & Giest, S. (2026). Bureaucratic accountability: Enabler or barrier for algorithm use? *Policy Design and Practice*, *9*(1), 16–52. https://doi.org/10.1080/25741292.2025.2578064

Weerheijm, B., Giest, S., & Klievink, B. (2025). Complexity, understandability, and compatibility: A comparative study of AI advisory systems for national security. *Government Information Quarterly*, *42*. https://doi.org/10.1016/j.giq.2025.102088

Wieringa, M. (2023). "Hey SyRI, tell me about algorithmic accountability": Lessons from a landmark case. *Data & Policy*, *5*. https://doi.org/10.1017/dap.2022.39

Zheng, G., Lee, H., Li, W., Liu, Y., & Tang, T. (2026). Navigating the algorithmic state: Public values and citizens' preferences of AI-driven public service delivery. *Public Administration*, 1–14. https://doi.org/10.1111/padm.70066

Supplementary Material

Administrative Justice in Public-Sector Automated Decision-Making Governance: A Systematic Review

Table S1. Full study-level characteristics of the 56 included studies

No.	Study	Jurisdiction / region	Policy domain	Design	Primary analytical emphasis	QA
1	Brand (2022)	South Africa	AI governance	Doctrinal/legal	Accountability/liability	MH
2	König & Wenzelburger (2021)	Cross-jurisdictional	Security/ enforcement	Conceptual	Trust/legitimacy	M
3	Csatlós (2025)	Hungary	General admin.	Doctrinal/legal	Admin. justice/review	H
4	Pesch (2025)	Germany/EU	General admin.	Doctrinal/legal	Transparency/ explainability	H
5	Zheng et al. (2026)	United States	Security/ enforcement	Quantitative	Trust/legitimacy	H
6	Gontarz (2023)	Poland/EU/UK	General admin.	Doctrinal/legal	Admin. justice/review	MH
7	Appelman et al. (2021)	Netherlands	Welfare	Doctrinal/legal	Transparency/ explainability	H
8	Weerheijm et al. (2025)	Netherlands	Security/ enforcement	Qualitative	Human oversight	H
9	Kaun et al. (2025)	Estonia/Germany/ Sweden	Welfare	Quantitative	Trust/legitimacy	H
10	Casado (2023)	Spain	General admin.	Doctrinal/legal	Transparency/ explainability	MH
11	Geburczyk (2021)	EU member states	General admin.	Doctrinal/legal	Due process	MH
12	Novotná et al. (2026)	Slovakia/EU	General admin.	Doctrinal/legal	Accountability/liability	MH
13	Wieringa (2023)	Netherlands	Welfare	Qualitative	Accountability/liability	H
14	Hickok (2024)	Cross-jurisdictional	Procurement	Conceptual	Procurement/risk	MH
15	Fischer-Abaigar et al. (2024)	Cross-jurisdictional	Welfare	Conceptual	Human oversight	H
16	Sanchez-Graells (2024)	EU/Council of Europe	Good administration	Doctrinal/legal	Due process	H
17	Engstrom & Ho (2020)	United States	Welfare	Doctrinal/legal	Accountability/liability	H
18	Carlsson (2025)	Sweden	Welfare	Qualitative	Due process	H
19	Reichel (2023)	Sweden	General admin.	Doctrinal/legal	Transparency/ explainability	MH
20	Cetina Presuel & Martinez Sierra (2024)	Cross-jurisdictional	General admin.	Conceptual	Accountability/liability	MH
21	Sharaf Addin (2025)	Cross-jurisdictional	General admin.	Doctrinal/legal	Due process	H
22	Denk et al. (2022)	Sweden	General admin.	Quantitative	Trust/legitimacy	H
23	Jobberns & Guihot (2024)	Australia	General admin.	Review	Accountability/liability	MH
24	Suksi (2021)	Finland	General admin.	Doctrinal/legal	Due process	MH
25	Lengyel (2025)	Slovakia/EU	Admin. punishment	Doctrinal/legal	Accountability/liability	MH
26	Long & Gil-Garcia (2023)	China	Public services	Conceptual/case-based	Transparency/ explainability	H
27	Hubková (2024)	European Union	General admin.	Doctrinal/legal	Accountability/liability	MH
28	Bannister & Connolly (2020)	Cross-jurisdictional	General admin.	Conceptual	Accountability/liability	MH

No.	Study	Jurisdiction / region	Policy domain	Design	Primary analytical emphasis	QA
29	Olsen et al. (2024)	Denmark/EU	FOI/records	Doctrinal/legal	Transparency/ explainability	MH
30	Haitsma & Brink (2025)	Cross-jurisdictional	General admin.	Review	Human oversight	H
31	Rizk & Lindgren (2025)	Cross-jurisdictional	General admin.	Review	Accountability/liability	MH
32	Adelmant & Raso (2025)	United Kingdom	Welfare	Qualitative	Accountability/liability	MH
33	Roehl (2023)	Denmark	Good administration	Qualitative	Due process	H
34	Shen (2026)	China	General admin.	Doctrinal/legal	Transparency/ explainability	H
35	Bodó & Janssen (2022)	Cross-jurisdictional	General admin.	Conceptual	Trust/legitimacy	MH
36	Arnesen et al. (2025)	Norway	General admin.	Quantitative	Trust/legitimacy	H
37	Allahrakha (2025)	Cross-jurisdictional	General admin.	Doctrinal/legal	Accountability/liability	H
38	Cobbe & Singh (2020)	Cross-jurisdictional	General admin.	Conceptual	Transparency/ explainability	MH
39	Pilving (2023)	Estonia	General admin.	Doctrinal/legal	Due process	MH
40	Rachovitsa & Johann (2022)	Netherlands	Welfare	Doctrinal/legal	Transparency/ explainability	MH
41	Nalbandian (2022)	Canada	Immigration/border	Doctrinal/legal	Accountability/liability	H
42	Kaun (2025)	Sweden	Welfare	Qualitative	Accountability/liability	H
43	Agbabiaka et al. (2025)	Cross-jurisdictional	AI governance	Review	Accountability/liability	H
44	Weerheijm et al. (2026)	Chile	General admin.	Qualitative	Accountability/liability	H
45	Hamu□áková & Horvat (2026)	Slovakia/EU	Admin. punishment	Doctrinal/legal	Due process	MH
46	Langer (2024)	Germany	General admin.	Doctrinal/legal	Accountability/liability	MH
47	Kuziemski & Misuraca (2020)	Cross-jurisdictional	General admin.	Conceptual	Accountability/liability	MH
48	Rudolf & Kovač (2024)	Slovenia/EU	General admin.	Doctrinal/legal	Accountability/liability	MH
49	Busuioc (2021)	Cross-jurisdictional	General admin.	Conceptual/ theoretical	Accountability/liability	M
50	Tomlinson (2020)	United Kingdom	General admin.	Review	Admin. justice/review	H
51	Butler (2025)	United Kingdom	General admin.	Doctrinal/legal	Accountability/liability	MH
52	Chenou & Valenzuela (2021)	Colombia	General admin.	Doctrinal/legal	Transparency/ explainability	H
53	Schmidt & Scott (2021)	Cross-jurisdictional	General admin.	Conceptual	Accountability/liability	MH
54	Hirvonen (2024)	Cross-jurisdictional	General admin.	Doctrinal/legal	Accountability/liability	MH
55	Jančát (2025)	EU member states	General admin.	Doctrinal/legal	Due process	MH
56	König et al. (2024)	Germany	General admin.	Quantitative	Trust/legitimacy	H

Note: QA = quality-appraisal weight; H = High; MH = Medium-High; M = Medium. Primary analytical emphasis reflects the adjudicated primary theme; non-exclusive secondary codes were retained in the extraction matrix. Design denotes the primary evidentiary mode used for cross-design comparison. A final consistency audit applied the operational decision rule reported in the Methods section and reclassified Busuioc (2021) as conceptual/theoretical and Long and Gil-Garcia (2023) as conceptual/case-based; no study was added to or removed from the 56-study corpus.

Table S2. Operational distinctions among overlapping governance concepts

Concept	Coding focus	Boundary from adjacent concepts
Accountability	Who must provide information, justify conduct, face review, or bear consequences	Broader than disclosure; requires an actor-forum or responsibility relationship
Transparency	Visibility of system use, data, rules, documents, or organizational process	Does not by itself require intelligible case reasons or a route to challenge
Explainability	Reasons or intelligible accounts for a particular output or decision	Narrower than reviewability, which includes reconstruction of the wider process
Reviewability	Capacity to reconstruct, question, and challenge the decision pathway	May depend on transparency, explanation, records, and institutional access
Auditability	Capacity to test a system or process against legal, fairness, risk, or performance criteria	Can occur without a citizen-facing remedy unless linked to accountability
Due process	Procedural entitlements before or during decision-making, including hearing and reason-giving	A component of administrative justice, not its entire institutional scope
Administrative justice	Institutional arrangements for lawful decisions, review, correction, and redress	Varies across courts, tribunals, ombuds institutions, agencies, and jurisdictions
Human oversight	Actual comprehension, authority, time, independence, and ability to intervene	Human presence alone was not coded as meaningful oversight

Table S3. Research-question mapping used for extraction and synthesis

RQ	Extraction focus	Comparative use	Analytical output
RQ1: Conceptualization	ADM type, automation level, decision function, consequence, public setting	System and decision characteristics; method and domain comparisons	Scope and forms of ADM described in the corpus
RQ2: Safeguards	Risks, accountability, transparency, oversight, review, appeal, remedy, auditability	Non-exclusive governance codes; evidence status by design	Safeguards proposed, interpreted, or empirically examined
RQ3: Variation	Region, jurisdiction, domain, ADM type, method	Regional, methodological, and domain comparison	Differences in analytical emphasis and institutional conditions
RQ4: Gaps	Evidence notes, design, quality, absent settings and outcomes	Evidence limitations; unresolved mechanism and evaluation questions	Specific theoretical, methodological, and empirical agenda