

<https://doi.org/10.19164/jlrn.v4i1.1699>

Published date: 20/10/2025



Article

Reviewing Grievances of Automated Decisions in UK Administrative Justice: Qualitative Documentary Analysis Methodology

Aysha Alshehri

PhD student at University of York

Aama556@york.ac.uk

Abstract

AI and other advanced technologies are increasingly deployed in governmental decision-making, including for fundamentally important decisions. Traditional methods of redress for grievances, such as ombudsmen and judicial review, were designed to focus on processes of human decision making, which might not be applicable in cases involving components or whole decisions made by automated processes. There is a dearth of legal precedents for such issues, and theoretical implications of law in this area are typically lagging behind rapid technological and governmental developments. More timely and comprehensive insights are needed to understand emerging administrative justice issues. This paper explores the utilisation of empirical qualitative documentary analysis as a viable methodology to categorise the challenges in reviewing administrative automated decisions grievances, demonstrating the application of systematic review and thematic analysis to derive insights for legal development.

Keywords: Administrative justice, Artificial Intelligence (AI), Automated decision-making, Grievances, Legal analysis, Qualitative documentary analysis.

Article Text

1 Introduction

The use of automatic algorithms to make decisions based on historical data is increasingly common. This may be relatively innocuous, such as private companies performing customer credit scoring with appropriate permission from consumers, or it may involve serious and profound administrative decisions by governments (e.g., entitlement to government benefits, such as for disability allowances). In traditional cases of administrative decisions being made by humans, the avenues of review (e.g., by ombudsmen, tribunals, or courts) were obvious, but this is less defined with regard to automated decisions.¹ This paper evaluates the scope of empirical qualitative documentary analysis to study automated decision-making (ADM) administrative justice (AJ). Documentary analysis method is commonly used in traditional legal research concerning behaviour, problem sources, and policy formation,² typically to overcome the limitations of legal doctrine method with regard to highly contextualised issues and practical effects.³

This paper presents qualitative documentary analysis in order to suggest a comprehensive typology of the problems and challenges encountered with regard to reviewing ADM grievances. The method is used to extract data from texts and organise them according to

¹ Jennifer Cobbe, Michelle Seng Ah Lee and Jatinder Singh, 'Reviewable Automated Decision-Making: A Framework for Accountable Algorithmic Systems' [2021] FAccT 2021 - Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency 598.

² Glenn A Bowen, 'Document Analysis as a Qualitative Research Method' (2009) 9 *Qualitative Research Journal* 27.

³ Terry Hutchinson, 'Doctrinal Research : Researching the Jury' in Dawn Watkins and Mandy Burton (eds), *Research Methods in Law* (2nd edn, Routledge 2017).

their types.⁴ This facilitates comprehensive categorising of the AJ challenges associated with reviewing ADM grievances. The analysis concludes with a suggested typology of ADM challenges of review, derived from the thematic analysis work that incorporates the perspectives of diverse stakeholders, including government policymakers as well as legal analysts, to help inform real-world solutions.

A clear typology is important because it breaks a broad issue into specific, useful, categories. This also allows for the development of distinct legal and technical responses. Classifying these challenges helps in building theories by highlighting patterns that enable future research to create hypotheses about causes, institutional weaknesses, and possible judicial pathways. For policymakers and judges, a clear typology highlights the most frequent legal or regulatory gaps that need reform. Additionally, by providing a shared vocabulary that connects legal issues to technical details, a typology encourages effective collaboration among legal scholars, social scientists, and technologists. This collaboration enhances both the empirical strength and practical relevance of research on ADM in administrative justice.

2 Methodology

2.1 Overview

The project aims to assess the capacity of Administrative Justice Institutions (AJIs) (e.g. courts, tribunal and ombudsman) to scrutinize and resolve complaints related to automated decisions. In order to achieve this aim, it investigates the challenges faced by AJIs in

⁴ Patrick Ngulube, 'Qualitative Data Analysis and Interpretation: Systematic Search for Meaning' in ER Mathipa and MT Gumbo (eds), *Addressing research challenges: making headway for developing researchers* (Mosala-MASEDI Publishers & Booksellers 2015) p.131-156.

reviewing ADM decisions and explores potential solutions to overcome these issues by conducting a qualitative document analysis research.

Qualitative researchers may generate data (e.g., from interviews) or use pre-existing data (i.e., documents), the latter of which is obviously more practically expedient.⁵ Documentary analysis is an obvious and time-honoured way to collect and analyse voluminous data from diverse sources in detail.⁶ Documentary analysis is suitable for legal research on automation as a respected qualitative methodology,⁷ generating diverse information, including official, corporate, and personal content, and textual, visual, and audio data.⁸

This paper concerns data sourced from diverse sources. These include websites, such as policy documents, expert evidence reports, and government responses regarding ADM on Gov.UK. Similarly, responses to access to information requests, publications by private institutions and NGOs such as the Public Law Project (PLP) and Alan Turing Institution, and surveys are freely available online. Government sources were also used, including parliamentary documents, reports from the Information Commissioner Office (ICO).

Judgments from courts, tribunals, and ombudsmen; judges' opinions on ADM issues, and expert evidence in cases against automated decisions comprised the main substantive legal

⁵ Hani Morgan, 'Conducting a Qualitative Document Analysis' (2022) 27 *The Qualitative Report* 64.

⁶ Sharan B Merriam and Elizabeth J Tisdell, *Qualitative Research : A Guide to Design and Implementation* (4th edn, John Wiley & Son 2015) p 175.

⁷ Michael Quinn Patton, *Qualitative Research & Evaluation Methods: Integrating Theory and Practice* (4th edn, SAGE Publications 2015) 84-169.

⁸ Lisa Webley, 'Qualitative Approaches to Empirical Legal Research' [2010] in Peter Cane and Herbert M. Kritzer 'The Oxford Handbook of Empirical Legal Research' 2010, (Oxford University Press) p 938.

sources, while other diverse documents pertaining to real cases were included from newspapers published documents regarding public ADM cases and litigations, published radio podcasts and interviews (such as the Public Law Project's interview with Professor Tomlinson), and videos of some published trials and litigations, such as the Post Office Horizon scandal in the UK, and legal experts and law firms' published videos relating to experience of ADM. These documents have reported on, studied, or discussed reality-based issues that affect the UK judicial system on the role of review and address ADM cases.

Embracing methods less commonly used in legal research is justified on the grounds of the scarcity of empirical studies germane to exploratory analysis of dynamic and emerging issues, and the inadequacy of traditional theoretical and library-based methods and case law. Furthermore, there is a general lack of literature on challenges of ADM appeals and judicial review in the UK, rendering more original approaches suitable to analyse legal issues and rules or policies, and to advise on legal reform.⁹ Easily available and publicly accessible documents of varying multimedia types¹⁰ can offer diverse and holistic perspectives on legal issues.¹¹ Digital records can be particularly insightful in troubleshooting required reforms, with regard to legal system flaws, best practices, proof of policy aims, and legislative considerations. Such advantages cannot be obtained from the relatively narrower scope of qualitative interviews, and can avoid types of bias associated with the personal dimension of the latter,¹² and ethical considerations associated with human research participants.¹³

⁹ Michael McConville and Wing Hong Chui, *Research Methods for Law* (Edinburgh University Press 2017) p.20.

¹⁰ Morgan (n 5).

¹¹ Merriam and Tisdell (n 6) pp.164-168.

¹² *ibid* pp.187-189.

¹³ *ibid*.

Challenges associated with documentary analysis include the total number and type of documents required before starting research being unknown,¹⁴ and limited data *per se*.¹⁵ For example, when selecting documents for analysis, it was found that there was insufficient data and documents in administrative law providing cases and information about ADM challenges of review. Consequently, documents from other areas of law were included that have documented the challenges of review of ADM. The broader scope of available documents from different aspects of law could identify the challenges of reviewing ADM and may provide solutions which could be helpful for administrative law. The process of conducting documentary analysis begins with selecting documents based on four elements identified by Brid Dunne et al.: authenticity, credibility, representativeness, and meaning in conducting documentary analysis.¹⁶

‘Authenticity’ involves documents’ consistency, including being free from linguistic or factual errors or changes,¹⁷ and the provenance and context of sources.¹⁸ ‘Credibility’ addresses the reliability of a document's source concerning biases.¹⁹ ‘Representativeness’ intersects with the generalisability of the source.²⁰ ‘Meaning’ concerns the implications and interpretation of the text.²¹

¹⁴ *ibid.*

¹⁵ Morgan (n 5).

¹⁶ Bríd Dunne, Judith Pettigrew and Katie Robinson, ‘Using Historical Documentary Methods to Explore the History of Occupational Therapy’ (2016) 79 *British Journal of Occupational Therapy* 376.

¹⁷ *ibid.*

¹⁸ Merriam and Tisdell (n 6).

¹⁹ Dunne, Pettigrew and Robinson (n 16).

²⁰ *ibid.*

²¹ *ibid.*

All of the documents selected for analysis in this study were authentic, reliable, representative, and clear, being selected from published sources and official channels (such as Gov.UK publications, professional associations, files of judgments, and published first-hand experts' reports). These sources are recognised as authentic and highly respectable, free from forgeries and other forms of bias.

2.2 Selecting and Categorising Documents

As described below, this documentary analysis began by searching academic databases and websites for relevant texts from a diverse range of relevant sources, including from official government documents, private institutions concerned with administrative justice and technological aspects of ADM, and legal cases and analyses. The resulting of texts underwent thematic analysis, with coding and thematic clustering of identified themes that categorise the challenges of reviewing ADM.

Due to the shortage of research and published cases on ADM grievances, this research uses public documents as a primary data source, including case judgments, experts' evidence to judges, official reports from governmental bodies and private institutions from various aspects of law (administrative, criminal, civil, business, consumer protection, technology). The inclusion of different legal sources can offer a comprehensive understanding of the associated challenges, by including perspectives from empirical evidence and case studies. The broader scope of analysing legal cases from different areas provides the study with a more complete analysis of the process of reviewing ADM. Such data strengthens the analysis

with real-world examples from different legal areas concerning similar issues.²² This study collected 53 documents from the various channels mentioned above, applying the rule of ‘Selecting Observations’ mentioned by Lee Epstein and Gary King:

‘1- identify the population of interest; 2- collect as much data as is feasible; 3- record the process by which data come to be observed; and 4- collect data in a manner that avoids selection bias.’²³

After applying these rules on the documents selected, the analysis can identify challenges in addressing ADM cases and grievances. The documents for this purpose are divided into two categories: (1) documents determining the problems of review faced by judges and other reviewers; and (2) documents including responses and suggested solutions about the problems.

Table 1 provides the criteria about the collection of the documents. In terms of selection criteria, only documents indicating ADM review challenges published on selected websites were chosen for data extraction in the documents collection set. To start, the selection of sources was initially done by looking at regulatory websites on where reports about AI should be submitted, such as government reports and parliamentary committee sessions with experts. From there, private institutions mentioned in government files as entities concerned with AI topics were searched, such as the Alan Turing Institute, PLP, and Information Commissioner's Office (ICO). These entities were found to fund reports and

²² Bowen (n 2).

²³ Lee Epstein and Gary King, ‘Empirical Research and The Goals of Legal Scholarship: A Response’ (2002) 69 *University of Chicago Law Review*.

studies for the UK government. In addition, the cases that related to ADM were searched for by typing the names of ADM systems used by different bodies and known to have caused problems for the public. Search engines on websites (such as LexisNexis, Heinonline, and Casemine) were used as a search tool to limit the searching process of the related cases. Judges' statements and experts' evidence are crucial documents for determining ADM issues and challenges.

The main collected and analysed documents are adumbrated below.

- **Government collection:** Reports from the Gov.UK publications, the Centre for Data Ethics and Innovation, and the Government's Central Digital & Data Office highlight the ethical considerations and practical challenges of implementing and overseeing ADM systems within the public sector. Parliamentary documents, including those from Select Committees and the House of Commons, reveal concerns regarding accountability, transparency, and bias in ADM, particularly within the justice system.
- **Private institutions collection:** Advocacy groups such as the PLP, ICO, and the Ada Lovelace Institute and independent institutions (e.g., the Alan Turing Institute) contribute policy papers and reports that emphasise the potential harm due to lack of transparency and accountability of ADM, emphasising the technical complexities involved in auditing and reviewing ADM systems.
- **Legal cases:** Cases demonstrate real-world ADM implementations and the practical application of legal principles. They also reveal judges' experiences regarding ADM-related challenges concerning review, and their impacts on the rights of individuals. These cases often include expert evidence and responses to judges that highlight the

lack of transparency in ADM systems, with even technical experts struggling to understand ADM internal workings due to ‘black box’ issues (which refers to the algorithmic complexity and opacity of automated systems, which are typically understood only by computer experts or designers).²⁴

A targeted typology is derived by empirically identifying related challenges from real-world cases and reports that reflect actual reality. The documents selected for the analysis need to demonstrate the types of the challenges that most adjudicative justice scholars are attempting to identify and solve, such as in reviewing evidence. Tomlinson and others identified key practical challenges limiting any effective judicial review functions, including the opacity of AI and algorithmic technologies, and time limitations for judicial review.²⁵ Cobbe also argued that producing evidence within the statutory three-month time limit would constitute a significant obstacle (due to the limited time specified), even if demand for judicial review seems set to increase.²⁶

Aside from the identified challenges, some of the documents propose a range of potential solutions to address the challenges of ADM review from different areas of law. These solutions vary widely which reflects the complexity evolution of ADM systems, and the policy and legal debates surrounding them.

²⁴ Karen Yeung, ‘Why Worry about Decision-Making by Machine?’, *Algorithmic Regulation* (Oxford University Press 2019) P.21-48.

²⁵ Sarah Nason, ‘Oversight of Administrative Justice Systems’ in Marc Hertogh and others (eds), *The Oxford Handbook of Administrative Justice* (Oxford University Press 2021).

²⁶ Jennifer Cobbe, ‘Administrative Law and the Machines of Government: Judicial Review of Automated Public-Sector Decision-Making’ (2019) 39 *Legal Studies* 636.

Some documents were excluded in the process of gathering the collected documents due to not being directly relevant to the scope of this study. These included studies relating to the challenges that faced by ADM decision makers themselves, rather than judges or other *ex post facto* reviewers of ADM decisions. They are related to the challenges associated with the use of ADM, such as errors, bias, and privacy issues in the applications of ADM. The document selection process in this study excluded these documents, opting instead to focus on documents and cases relevant to the research question, which was exploring the challenges associated with review ADM.

Thematic analysis was applied to analyse the gathered documents (as described below). After the initial data collection of the types of ADM challenges of review extracted from the documents and texts, information was presented in text and tables. The overall steps were not only to analyse the challenges of review, but to map out a typology from the sources of the highlighted texts. In thematic analysis, all identified challenge types were coded to inform thematic development of an applicable typology for document types, sources, areas of law, and challenges. The content and the codes were retrieved and organised in tables to determine the themes of the concerned issues. The following section describes how the thematic analysis was applied using numbered codes.

Table 1: Criteria of collected documents and types of Challenges

A) Type of Document	B) Area of Law
1-Report	1-Administrative
2-Policy/bill/guide/strategy	2-Criminal
3-Study/research/survey	3-Civil
4-Governmental response	4-Employment
5-Judgement	5-Healthcare
6-Expert evidence	6-Data protection
7-Judge statement	7-Business
8-Video	8-Competition
9-Podcast	9-Consumer
	10- AI regulation
	11- Not specified
C) Source of Document	D) Type of Challenge
1-UK Government	1-Lack of transparency
2-Case	2-Delay
3-Expert evidence	3-Difficult to provide evidence
4-Institutions/organisation	4-Disclosure issue
E) Type of Information	5-Limited access to information
1-Challenges	6-Lack of explanation
2-Response	7-Regulatory gap
3-Both	8-Difficult holding accountability
	9-Lack of authority
	10-Limited redress
	11-Interpretation difficulties
	12-Expertise gap
	13-Cost
	14-Procedural issues
	15-Time limit in judicial review
	16-Litigation cost

2.3 Thematic Analysis

The process of thematic analysis itself is unpacked in the presentation of the results (below), but a brief description of the method is a useful primer. After creating the documents collection, the next step is to analyse the contents of those documents based on the aim of the study. At this stage, researchers have to choose between the uses of *content* or *thematic* analysis. Content analysis is usually conducted for statistical analysis in quantitative studies,²⁷ while thematic analysis focuses on how people interpret contextually rich qualitative data.²⁸ Consequently, thematic analysis is more flexible and suitable for this study. It is typically the default used in deductive research using in-depth expert interviews, as well as in some types of systematic review,²⁹ albeit the latter differs from thematic analysis in terms of purpose, processes, and data resources. While thematic analysis aims to generate themes of collected information observed from qualitative data, systematic review is a method of comprehensive summarising the results of literature on a specific topic.³⁰

Systematic review adheres to a strict protocol of predefined selection criteria to select relevant research and studies.³¹ In contrast, the significance of the thematic analysis is that it provides a flexible technique of qualitative data analysis by in-depth examination and interpretation of patterns and themes of meaning in texts from documents.³² It enables its

²⁷ Patton (n 7).

²⁸ Merriam and Tisdell (n 6).

²⁹ Mark Petticrew and Helen Roberts, *Systematic Reviews in the Social Sciences : A Practical Guide* (John Wiley & Sons 2006) p 87.

³⁰ William Baude, Adam Chilton and Anup Malani, 'Making Doctrinal Work More Rigorous: Lessons from Systematic Reviews' (2017) 84 University of Chicago Law Review.

³¹ Karen Chapman, 'Characteristics of Systematic Reviews in the Social Sciences' (2021) 47 The Journal of Academic Librarianship 102396.

³² Virginia Braun and Victoria Clarke, 'Conceptual and Design Thinking for Thematic Analysis' (2022) 9 *Qualitative Psychology* 3.

application across various theoretical frameworks, official documents, reports, videos, podcasts and research paradigms.³³

The thematic patterns identified from reading and reviewing the documents were assigned codes, which were then counted and compared across a dataset (in this case, documentary evidence) in order to identify emergent themes (areas of themes among repetitive codes).³⁴

In legal research, this method is applicable in many contexts, such as analysing legal issues in published reports, policy documents, expert statements or judgments.³⁵

Codes are the smallest analytical units that capture significant features of the data related to the research question; they serve as foundational elements for themes,³⁶ abstract entities that identify and unify texts under a common meaning, representing broader patterns of meaning based on a central organising concept or a unified core idea.³⁷ This research followed Braun and Clarke's six-step method, as shown in Table 2 and described below.³⁸

³³ Virginia Braun and Victoria Clarke, 'Using Thematic Analysis in Psychology' (2006) 3 *Tandfonline* 77.

³⁴ Lisa Webley, 'Qualitative Approaches to Empirical Legal Research' in Peter Cane and Herbert M Kritzer (eds), *The Oxford Handbook of Empirical Legal Research* (Oxford University Press 2012) p 926–950.

³⁵ *ibid.*

³⁶ Victoria Clarke and Virginia Braun, 'Thematic Analysis' (2017) 12 *The Journal of Positive Psychology* 297.

³⁷ Lorelli S Nowell and others, 'Thematic Analysis: Striving to Meet the Trustworthiness Criteria' (2017) 16 *International Journal of Qualitative Methods*.

³⁸ Cited by Gerald A Craver, 'Not Just for Beginners-A Review of Successful Qualitative Research: A Practical Guide for Beginners Research: A Practical Guide for Beginners' (2014) 19 *DOAJ Directory of Open Access Journals* 12.

Table 2: Braun and Clarke's strategies of thematic analysis³⁹

Stage	Thematic Analysis	Description
1	Transcription	Turning audio data into written text (or transcripts) by writing down what was said and how it was said so the data can be systematically coded and analyzed.
2	Reading & Familiarization	Reading and re-reading the data to become intimately familiar with the content (i.e., immersion); analysis begins by noticing things of interest that might be relevant to the research questions.
3	Coding (Selective & Complete)	Identifying aspects of the data that relate to the research questions; can involve <i>selective coding</i> where only material of interest is coded or <i>complete coding</i> where the entire dataset is coded.
4	Searching for Themes	Identifying salient features that capture something important about the data in relation to the research question; may represent some level of patterned response or meaning within the dataset.
5	Reviewing Themes	Determining whether candidate themes fit well with the coded data; themes should tell a story (not necessarily <i>the story</i>) that “rings true” with the data; essentially represents quality control in relation to the analysis.
6	Defining & Naming Themes	Defining themes by stating what is unique and specific about each one; useful because it forces researchers to define the focus and boundaries of the themes by distilling to a few short sentences what each theme is about.
7	Writing the Report	Writing the report by selecting compelling, vivid examples of data extracts, and relating them back to the research question and literature.

Braun and Clarke (2013), pp. 202–203.

3 Results

The outcomes of applying the described thematic analysis methods are presented and explained below.

3.1 Step 1 – Familiarisation with the Content

As the archetypal “Stage 1” displayed in Table 2 was not necessary in this study (as the documents were already in written form, rather than transcribing audio interview data), “Step 1” of *this* study was becoming familiar with the collection. This step involves reviewing the complete collection of documents multiple times, before beginning to record observations and assign codes to chosen texts.⁴⁰ The first screening of the documents

³⁹ Cited by *ibid*.

⁴⁰ Nowell and others (n 37).

showed some repetitive ADM review challenges relevant to this research, which were helpful to develop the first stage of coding. Texts were selected due to explicitly mentioning direct and indirect challenges of review, determined by searching for the following keywords identified by the researcher as relevant to ADM review:

Accountability; Ambiguity/ opacity/ vagueness/ vague; Black box; Challenge a decision/ contest; Clarity/ not clear; Cost; Court/ tribunal/ ombudsman; Difficult to understand/ I cannot understand/ understandable; Disclose/ disclosure; Evidence; Expertise/ expert; Explainability; Hard/ difficult to prove; Judge/ reviewers; Judicial review; Oversight/ assess; Transparency.

Subsequently, texts were selected for review according to direct and indirect types of challenges they mentioned. The relevant texts are shown in the data extraction table (Appendix 1). The selected texts illustrated a broad consensus focusing on ADM challenges of review, such as lack of transparency and accountability. For example, it was observed that most reported cases and challenges were about the opacity and lack of explainability of many algorithms (i.e., the black box issue). These issues are also the source of many additional challenges for reviewers to understand how decisions are made, and to assess them (e.g., disclosure problems). In addition, the cost and complexity of legal challenges are also frequently highlighted as barriers to access to justice, especially for individuals or groups with limited resources, who are likely to be victims of administrative injustice. Documents can be coded and categorized based on specific criteria for easy reference throughout the discussion, with unique serial numbers for government (GV), expert

evidence (EX), cases and judgments (CJ), judges' statements (JS), and private institutions (IN).

3.2 Step 2 – Coding (All Mentioned Challenges)

In the second phase, repeated reading and note-taking for the texts fed into coding data manually according to review challenges, as shown in Table 3. The codes were developed by selecting the labelled challenges of review in the text previously identified in the first step. For example, in [CJ5] *Johnson and others v. Secretary of State for Work and Pensions* (2019), it was observed that the judges noted several challenges in addressing this case. One of which was the difficulty of providing redress for claimants. In the coding process, the text '*While the system was intended to be automated, as evidenced by Ms McMahon's testimony, this automation created complications in addressing specific issues that arose in the case*' comes under challenge code named '**limited redress**'. All codes and their descriptions are shown in Table 3.

Table 3: Coding for mentioned ADM challenges

No.	Code	Description
1	Lack of transparency	Black box and commercial sensitivity issues in algorithmic decision-making
2	Explainability	Opacity and lack of clarity in decisions and reasoning provided by tribunals/courts
3	Accountability	Difficult to hold accountability and determining the responsible party who can be blamed and sanctioned.
4	Regulatory gaps	Need to regulate AI and deficiencies in existing legal frameworks
5	Expertise gap	Lack of technical and legal expertise to adequately assess and regulate ADM in the AJs
6	Disclosure issue	Issues related to provide the court with data quality, completeness, accuracy, and timeliness of data provided to courts/tribunals
7	Access to information	Difficulty accessing information, data, and relevant documentation
8	Cost	High costs associated with challenging ADM decisions
9	Delay	Delays and inefficiencies in the process of challenging ADM decisions
10	Lack of authority	Lack of component authority to regulate, assess and oversee AI
11	Evidence	Difficulties in providing evidence to support claims of unfairness or inaccuracy
12	Time limit	3-month time limit in judicial review
14	Redress	Lack effective redress mechanisms
14	Interpretation difficulties	Complexity of the ADM systems, making understanding and challenge extremely difficult

3.3 Step 3 – Development of Themes

At this stage, the identified codes were organised into themes, developed by grouping the codes that revealed most relevant and important ADM challenges of review.

Methodologically, grounded thematic analysis entails deriving deductive themes from codes pertinent to the study's question, as described by Braun and Clarke.⁴¹ Practically, this was implemented by the researcher reading and re-reading the primary sources repeatedly, and

⁴¹ Clarke and Braun (n 36).

considering them in the context of existing legal research. During this process, it was possible to identify recurrent concepts and patterns across sources. These were assigned codes, which were subsequently grouped under themes. The recurrent codes discerned from the documentary analysis thus led to identifying and validating the emergent themes.

This process led to the identification of three main themes, comprising 16 codes derived from the analysis of the primary data, as shown in Table 4. Some codes doubled as names for the overarching theme, such as “Lack of Transparency” as the ADM challenges of review theme, comprising “lack of transparency”, “explainability”, “accountability”, etc. Similarly, the “Expertise Gap” theme encompassed the codes “expertise gap”, “cost”, and “procedural delays”.

Table 4: Emergent themes

No.	Code	Theme
1	Lack of transparency	Lack of Transparency
2	Explainability	
3	Accountability	
4	Disclosure issue	
5	Access to information	
6	Delay	
7	Expertise gap	Expertise Gap
8	Cost	
9	Delay	
10	Regulatory gaps	Regulatory Gap
11	Time limit	
12	Litigation cost	
13	Redress	
14	Lack of authority	
15	Access to Evidence	
16	Interpretation difficulties	

3.4 Stage 4: Reviewing the Theme Descriptions

Re-reading the texts under each code allowed the researcher to identify three specific patterns of challenges. This step is crucial for refining and clarifying themes to ensure that the themes accurately reflect the selected texts. This often involves splitting themes to achieve better clarity and representation of each group of challenges. Based on the codes, the prominent themes are as shown in Table 5.

3.5 Step 5: Final Themes

After refining the themes, the final review confirms that all themes are well-defined and related to the research question.⁴² This involves summarising each theme and giving it a name that accurately identifies a type of challenge. The final themes in this analysis, as summarised in Table 5, provide a thorough analysis of the ADM review challenges, serving as the basis for establishing the typology that this study intends to develop.

⁴² Nowell and others (n 37).

Table 5: Summary of themes

No.	Code	Theme	Examples
1	Lack of transparency	Lack of Transparency	[CV10] 'achieving full technical transparency is difficult, and possibly even impossible, for certain kinds of AI systems in use today.'
2	Explainability		[EX5] 'Despite the GDPR's intent for a 'right to explanation,' it practically offers a 'right to be informed,' which is limited by trade secret protections'.
4	Disclosure issue		[EX1] 'development and operation of ADM tools through requests under the Freedom of Information Act 2000 (FOIA), both the Home Office and the DWP often refuse disclosure.'
5	Access to information		[EX6] 'I cannot comment on whether AFR Locate has a discriminatory impact as I do not have access to the datasets'
6	Procedural delays		[CJ1] 'The Post Office disclosed crucial documents, including a large number of PEAKs (Problem Event Analysis and Knowledge) and KELs (Known Error Logs), very late in the process.'
7	Expertise gap	Expertise Gap	[CJ6] 'a tribunal's lack of technical expertise directly impacts its ability to assess the significance of the statistical data.'
8	Cost		[IN7] 'high Cost of contesting a decision that need to hire an expert and request for information.'
9	Procedural delays		[JS2] 'The judges spend significant time deciphering these regulations and their implications.'
10	Regulatory gaps	Regulatory Gap	[IN11] 'Existing law is unhelpful in assessing the procedural fairness of ADM/ASDM systems Under the common law of judicial review'.
11	Redress		[GV3] 'insufficient avenues for redress for individuals negatively impacted by algorithmic systems.'
12	Lack of authority		[IN2] 'Existing review bodies such as the Parliamentary and Health Service Ombudsman lack the powers to initiate investigations'
13	Evidence		[IN12] "Claimants face a range of barriers, including being dissuaded from making a challenge, being required to provide documentation'
14	Interpretation difficulties		[CJ5] 'The primary challenge was determining the proper interpretation of the regulations,
15	Time limit		statutory three-month time limit in Judicial Review
16	Litigation cost		[GV4] 'high costs of litigation in seeking redress.'
3	Accountability		[GV1] 'Lack of clear accountability for who is legally responsible'

3.6 Step 6: Report

Broadly speaking, UK Administrative Justice Institutions' (AJI) traditional models of redress (for administrative grievances) include mechanisms such as judicial review by courts, tribunal appeals, internal administrative review systems, and ombudsmen. The majority of reviewed cases and documents on AJI challenges reviewing or redressing ADM focused on the role of courts and judicial review rather than other institutions, and judges rarely self-assessed or acknowledged their limited capacities to review opaque technologies or assess expert evidence (e.g., algorithm training). While some relevant cases were reviewed by tribunals, none were investigated by the ombudsman. These non-judicial bodies can be effective in cases pertaining to quasi-regulatory or adjudicative bodies, due to the challenges of lack of judicial expertise in courts and regulatory guidelines, limited procedural times, and other barriers explained in this paper, while the ombudsman has the role of investigating claimed decisions from their internal process until issuing them. Similarly, one body that has yet to be fully explored in the collected documents is the UK ICO, which is responsible for overseeing information rights in the public interest, and data privacy and has quasi regulatory and adjudicative functions and may hear disputes.

Thematic analysis helped to deduce three main themes and identified the challenges that reviewers face while reviewing and addressing ADM issues and cases. As noted before, each theme is characterised by a specific type of challenge. This section provides a detailed description of all of the identified challenges of review in ADM for each emergent theme, to establish the typology of ADM challenges of review.

Documents in the Government collection (in Appendix 1) seem to be more comprehensive than other groups in determining the ADM challenges of review. This may be because these unified reports are based on data, cases, and reports submitted in different areas of law, also including stakeholder consultations. For example, for the ‘AI Barometer 2020’ report [GV1], over 100 experts from across five key UK sectors (Criminal Justice, Financial Services, Health & Social Care, Education and Public Sector) informed the government about the most pressing opportunities, risks and governance challenges associated with AI and data.

All experts who submitted evidence in the governmental and case documents analysed in this study stressed their views that all ADM systems have been developed based on black box codes and data, which prevents accessing information in the internal design of the systems and their data. According to the cases collection, it was not possible for the experts to provide judges with answers to their questions about whether the system was wrong, or if the data was biased.

The documents collection also includes live videos and podcasts, which highlighted the ADM challenges of review discussed under the themes in this study. These types of documents enhance the credibility of the analysis, providing insights from reality and official live sources. One example is the live recorded video of *Pantellerisco & others v. Secretary of State for Work and Pensions (2020) [CJ4]*, published by the Court of Appeal on their YouTube channel.

3.6.1 Theme 1: Lack of transparency

This theme refers to insufficient transparency about the information of the data used to train the AI algorithms that operate the processes in ADM systems, and the need for a clear and understandable explanation of decision-making rationale. It also refers to a lack of fair access to relevant and accurate data and explanation of how ADM systems work for all parties involved. Most collected documents from all sources in Appendix 1 mentioned the lack of transparency as a main source for other challenges, as shown in Table 5. The vast majority (90%) of the selected texts in the documents collections repeatedly cited and referenced this issue.

Based on the overall data from the documents collections for this paper the **limitations on access to information and transparency** significantly hinder the ability of reviewers to evaluate ADM. Without mandatory transparency, individuals and judges appear to face challenges in understanding how automated decisions are made, as well as how ADM affects the subjects of decisions and conventional legal formats. This lack of information not only restricts the public's ability to understand the systems but also limits the parties' capacity to **provide information for evidence** in judicial review.

Although automated decisions were not involved in the case, the issue of a lack of transparency is illustrated in *FO v Secretary of State for Work and Pensions (UC) [2022] UKUT 56 (AAC)*. It was ruled that the Department of Work and Pensions (DWP's) submission to the first tier tribunal was insufficient because of the absence of key documents, like the original

UC (Universal Credit) claim and the initial claimant commitment document.⁴³ The Social Entitlement Chamber first-tier tribunal (FTT) relied on the DWP's claims without sufficient corroborating evidence. The Upper Tribunal (UT) granted the appeal, stating the FTT made a mistake by not reviewing all relevant documents and misunderstanding the claimant's case. The UT also determined that the FTT incorrectly applied the law concerning the termination of UC awards in the presence of existing commitments. The DWP's representative agreed that the FTT's finding was flawed and that the DWP's response lacked crucial evidence, including the claimant commitment document and documentation showing the proper procedure for setting new commitments.⁴⁴

Furthermore, during the proceedings captured in the video of *Pantellerisco & others v. The v Secretary of State for Work and Pensions (2020) [CJ4]*, the judge remarked on the challenges of **lack of transparency**. In the minutes from 29:00 to 34:00, the judge expresses a need to understand the UC system stating:

“... I think it's confusing enough...”

“ ...but I'm just trying to understand it...”

‘... that doesn't tell you enough in order to understand what the intention or what the purpose of the scheme should be for that sort of perceived income is throwing up...’ [CJ4].⁴⁵

⁴³ *FO v Secretary of State for Work and Pensions (UC)* (2022) 56.

⁴⁴ *ibid.*

⁴⁵ Court of Appeal, ‘*Pantellerisco & Others (Claimant/Resp) v Secretary Of State for Work and Pensions (Def/Appellant) - YouTube*’ (15 June 2021) [Pantellerisco & others \(claimant/resp\) v Secretary Of State for Work and Pensions \(def/appellant\) - YouTube](#) accessed on 19 November 2024.

The [GV1] report mentioned above concluded that:

‘It is difficult for people to understand or challenge decisions made or informed by algorithms because of their ‘black box’ nature or commercial confidentiality regarding their functionality.’ [GV1]

‘It is difficult for supervisory bodies to interrogate the accuracy and robustness of AI and data-driven systems used within financial services (e.g., in credit decisions) due to lack of transparency and their ‘black box’ nature.’ [GV1].⁴⁶

3.6.2 Theme 2: Regulatory gap

This theme means insufficient existing legal frameworks to address unique challenges related to automated decisions. The main characteristic of the documents collected in this theme is the frequent reference to **lack of clear accountability, lack of competent authority, limited types of redress, and interpretation difficulties**. Accountability requires adequate avenues for people to challenge ADM systems, together with effective enforcement mechanisms and the possibility of sanctions.

Recently, increasing reference to the insufficiency of AI and ADM regulation can be observed in all types of the collected documents. Scholars and academics from different perspectives (including law as well as technological fields) have increasingly discussed the effects and challenges of the absence of clear AI regulations to the AJ review process. AJ scholars have indicated that:

⁴⁶ ‘CDEI AI Barometer’ (GOV.UK, 23 June 2020) <<https://www.gov.uk/government/publications/cdei-ai-barometer/cdei-ai-barometer>> accessed 19 January 2025.

‘ADM relies on personal data (which will be in most systems used in public administration to make decisions about individuals), the General Data Protection Regulation and the Data Protection Act 2018 require a variety of information to be disclosed. This includes the right for information to be provided.’⁴⁷

Nevertheless, they stated that there are limitations to these protections, raising questions about whether it is feasible to receive a comprehensive explanation of an ADM system.⁴⁸ Under this theme, the analysis revealed the challenges that resulted from the regulatory gap as discussed below.

Ambiguous or unclear regulations led to **challenges in interpreting** the legal requirements. In Judge Wright’s statement, repeatedly highlights the complexity and intricacy of the UC regulations, specifically concerning earned income calculations (regulations 54 and 61). The judges spent significant time deciphering these regulations and their implications, and the **difficulty in applying and interpreting** the law was clearly demonstrated. The court’s own description of the reasoning as ‘compressed’ further highlights this issue.

Another example from the documents under the theme of regulatory gap is demonstrated in the report ‘*Auditing algorithms: The existing landscape, role of regulators and future outlook*’ [GV2] published on the Gov.UK website, which focuses on the governance and

⁴⁷ Joe Tomlinson, Katy Sheridan and Adam Harkens, ‘Judicial Review Evidence in the Era of the Digital State’ [2020] SSRN Electronic Journal 740-760.

⁴⁸ *ibid.*

auditing of algorithmic systems. While it does not specifically address algorithmic judicial review, it does extensively discuss the broader issues of algorithmic accountability, transparency, and the need for auditing processes. The report notes the **insufficient avenues for redress** for algorithmic systems, and that the current algorithmic audit landscape is **largely unregulated**.

3.6.3 Theme 3: Expertise gap

The collected documents show that this theme illustrates that AJs lack the technical expertise to assess and review complex algorithmic evidence. It is helpful to begin analysing this theme by examining the real cases to determine the level of technological knowledge about ADM in AJs. Therefore, this theme will initiate the discussion by looking at what judges and reviewers have expressed about the lack of knowledge concerning ADM systems. In this context, Jude Wright stated in [JS2] that the extensive analysis and discussion of technical legal issues presented challenges due to the complexity of the UC system and the ambiguities in both the initial decision and the Court of Appeal's declaration. He added that the court **needed to extensively research** and consider nuanced aspects of multiple legal precedents to arrive at its conclusions. His statement emphasises a type of challenge under this theme that the court needs '**specialised knowledge**':

'The court's detailed analysis of regulations, legal precedents (Johnson, NCCL, Majera, etc.), and the overall intricacies of the UC system and the calculation methods suggests a requirement for **specialised knowledge to fully grasp** the matter.'

In addition, Lord Sales notes that challenges in the courts may arise from ‘technical illiteracy,’ as ‘understanding algorithms **requires specialised skills**,’ which most people do not have. He added that judges are not well equipped to assess or understand whether the system of automation relies on a defective methodology to analyse the data inputted into them, or which are too inflexible to account for differences in individual cases (such as in the *Johnson* decision and *HMRC v Tooth*).

Overall, from the documents collected it can be observed that the expertise gap caused other challenges for both the court and the affected individual. The expertise gap within AJs exacerbates **delays** in the judicial review process. The need for expert testimony to understand complex algorithmic evidence significantly lengthens proceedings, contributing to substantial delays. Furthermore, this same expertise gap drives up the **cost** of litigation. The requirement for expert evidence and testimony adds a considerable financial issue to legal challenges, making access to justice more difficult and potentially deterring individuals from pursuing necessary reviews of ADM. This is supported by the Alan Turing Institute’s written evidence, cautioning about ‘the **financial burden** a citizen may have to undergo in hiring the right type of expert to support their challenge.’ The BIIIL report also raised the causes of the expertise gap while contesting automated decisions, and highlighted that the need for expertise and knowledge lead to the **high cost** of contesting a decision that needs to hire an expert and request for information.

In general, a main observation has been noted from the above discussion that the courts may not understand expert testimony and evidence even if they request it to fill the

expertise gap in ADM judicial review process due to combined challenges. These are the expertise gap within the courts beside the other challenges like lack of transparency in the ADM process and lack of explanation in responses by the respondents.

4 Suggested Typology of ADM Challenges of Review

Based on the thematic analysis, two fundamental aspects of ADM challenges of review typology have emerged. The first is challenges primarily affecting judges and administrative justice in general, including the themes transparency and explainability, legal and regulatory gap, technical expertise, and practical and procedural issues (Table 5). Inconsistent transparency practices exist in accessing information and dealing with varying levels of transparency across different organisations and cases. Judges also face the challenges of uncertainty in the legal basis while seeking to interpret and apply laws to ADM. The difficulty in identifying the responsible party for algorithmic bias or error in complex systems comes also under the regulatory gap challenges. Based on the above analysis, the most common issue in ADM judicial review is the lack of expertise in the judicial system and limited understanding of the technical aspects of ADM within the judiciary.

Secondly, there are challenges primarily facing people affected by automated decision making (Table 5). The **lack of transparency and accessing to information** due to a refusal to disclose information directly affect people's rights to have an explanation about the decisions. For example, in *Public Law Project V. The Information Commissioner (2023)* [CJ2], the PLP appealed the decision by the Information Commissioner which upheld the HO refusal of a freedom of information request. The complainant requested information about

the model's criteria, including how nationality was considered in the “sham marriage” tool. However, the Home Office refused to fully disclose information related to a sham marriage triage model.

This issue also affects their ability to provide evidence in issuing judicial review proceedings. Similarly, many of the collected documents indicate that the people are struggling to understand the reasons and the rationale for automated decisions, because of their limited awareness about ADM technology; indeed, in some cases they do not even notice (or are not adequately informed) that a decision was issued by an ADM system. Furthermore, financial barriers to challenging ADM decisions (including hiring experts) potentially prevent justice. The basic typology arising from the analysis undertaken is shown in Table 6.

Table 4: Overview of basic typology

Typology Category	Challenges Primarily Affecting Judges	Challenges Primarily Affecting Individuals	Overlapping Challenges
I. Transparency & Explainability	Problems of disclosure. Insufficient explainability. Access to information.	Limited access to information. Difficulties in obtaining evidence.	Lack of transparency, insufficient explainability.
II. Legal & Regulatory Gap	Uncertainty in the legal basis. Lack of clear accountability (determining responsible parties). Applying existing legal frameworks to ADM. Insufficient redress mechanisms.		
III. Technical Expertise	Lack of expertise (in the judicial system). Delay in understanding ADM. Cost to hire external experts.	Lack of technical awareness. Delay in providing evidence and waiting for outcomes. Cost in seeking legal support from experts.	Lack of technical expertise. Delay. Cost.

Most collected documents covered ADM application and substantive use in decision-making in relation to privacy rights, judicial review concerning legality, or rules of applicable ADM standards, while the ADM challenges of review is based on complex and opaque systems, indicating the need to develop the role of judicial review in ADM cases. Collected documents concurred that the magnitude of ADM warrants reasoning and transparency requirements, but ADM challenges of review in AJs has received negligible consideration in all areas of law and policy, and is merely *inferred* from expert evidence in some cases.

Most pertinent documents concern judicial review procedures, such as the lack of metrics for assessing and evaluating ADM, time limits, and the need for expert evidence.⁴⁹

Moreover, there are some challenges raised about how courts can determine competences for decisions based on specialist/ opaque codes and technologies.⁵⁰ Relatedly, some sources heavily focused on the challenge of the lack of AJs' expertise and disclosure requirement issues,⁵¹ associated with costs and delays.⁵² By exploring academic sources from different areas of law, some have demonstrated problems such as data gap, limited competent authority and difficulties in holding accountability to ADM systems where there is no human intervention.⁵³

Few analysts have addressed how ADM affects the role of AJs in fields outside administrative law (e.g., civil and commercial law), given that judicial review is typically associated with public law. Therefore, addressing potential review challenges seems incomplete in UK law. However, there are few cases in criminal, civil, intellectual property, and business law that can be considered here for identifying the types of challenges and that fill the gap of the solutions needed in this study. For example, concerning the "Issues arising

⁴⁹ Rebecca Williams, 'Rethinking Administrative Law for Algorithmic Decision-making' (2021) 42 Oxford Journal of Legal Studies.

⁵⁰ Igor Gontarz, 'Judicial Review of Automated Administrative Decision-Making: The Role of Administrative Courts in the Evaluation of Unlawful Regimes' (2023) 2023 ELTE Law Journal 151.

⁵¹ Michèle Finck, 'Automated Decision-Making and Administrative Law' in Peter Cane and Others (eds), *The Oxford Handbook of Comparative Administrative Law* (Oxford University Press 2020) P 655-676, see also, Richard Moorhead, Karen Nokes and Rebecca Helm, 'Post Office Scandal Project: Issues Arising in the Conduct of the Bates Litigation' (2021) Evidence Based Justice Lab Available at <https://evidencebasedjustice.exeter.ac.uk/wp-content/uploads/2021/08/WP1-Conduct-of-the-Bates-Litigation-020821.pdf>.

⁵² Matt Davies and Michael Birtwistle, 'Regulating AI in the UK' Report (2023) Ada Lovelace Institute Available at <https://www.adalovelaceinstitute.org/report/regulating-ai-in-the-uk/>.

⁵³ Abe Chauhan, 'Towards the Systemic Review of Automated Decision-Making Systems' (2021) 25 Judicial Review 285.

in the Conduct of the Bates Litigation” about *Bates v Post Office*, concerns were raised about the decision that affected more than 500 employees. Issues such as disclosure problems, costs, and expert delays and misconduct in evidence arose as serious concerns in reviews of decisions in civil courts.⁵⁴

5 Conclusion

This paper gathered a diverse collections of texts, including from official government documents, private institutions concerned with administrative justice and technological aspects of ADM, and legal cases and analyses. Sourced from searches of academic databases and the internets, high-quality and important publications were selected that were within the real-life ADM decisions and concerns pertaining to review. The resultant texts were thematically analysed, with coding and thematic clustering of identified themes, in order to identify three emergent thematic categorisations: “lack of transparency,” “regulatory gap,” and “expertise gap.” Based on this analysis, the parameters of a new typology of ADM challenges was suggested, including “Transparency and Explainability,” “Legal and Regulatory Gap,” and “Technical Expertise.” While the emergent typology incorporates authentic and relevant issues pertaining to the scope of ADM review, it should be noted that there are inherent limitations when qualitatively selecting texts and the subjective analysis of qualitative data, which is an inherent limitation of documentary analysis.

Nevertheless, incorporating a wide array of legal sources and empirical data, this paper has mapped out the multifaceted nature of grievances associated with ADM, highlighting the

⁵⁴ Moorhead, Nokes and Helm (n 51).

gaps in existing literature and case law. The qualitative documentary found that issues pertaining to the identified black box issue of ADM systems and the dearth of relevant technological expertise among most public servants and legal experts concerned with ADM redress can result in limited transparency and gaps in knowledge among justice institutions. Such issues can affect disadvantaged people, whether or not judges hear apportioned witnesses or experts. This is particularly exacerbated by the fact that legal proceedings in general are typically time-consuming, and prerequisite data cannot universally be rendered accessible on a timely basis.

This method has not only revealed the limitations of current administrative practices, but also emphasized the need for a comprehensive typology to better address these challenges in relation to fast-emerging technologies, based on relatively novel methods of systematic review and thematic analysis not commonly used to comprehend areas of law. By examining best practices from various fields, this research aims to propose viable solutions that can be adapted to enhance administrative law's responsiveness to ADM grievances.

Ultimately, advancing administrative justice in the era of technological transformation requires a concerted effort to bridge the existing legislative gaps and procedural solutions. Continued exploration and dialogue in this domain will be vital in fostering an administrative system that honours individual rights while navigating the complexities introduced by emerging technologies.

References

- Abe Chauhan, 'Towards the Systemic Review of Automated Decision-Making Systems' (2021) 25 Judicial Review 285.
- Bríd Dunne, Judith Pettigrew and Katie Robinson, 'Using Historical Documentary Methods to Explore the History of Occupational Therapy' (2016) 79 British Journal of Occupational Therapy 376.
- 'CDEI AI Barometer' (GOV.UK, 23 June 2020)
<<https://www.gov.uk/government/publications/cdei-ai-barometer/cdei-ai-barometer>> accessed 19 January 2025.
- Court of Appeal, 'Pantellerisco & Others (Claimant/Resp) v Secretary Of State for Work and Pensions (Def/Appellant) - YouTube' (15 June 2021) Pantellerisco & others (claimant/resp) v Secretary Of State for Work and Pensions (def/appellant) - YouTube accessed on 19 November 2024.
- FO v Secretary of State for Work and Pensions (UC) (2022) 56.
- Gerald A Craver, 'Not Just for Beginners-A Review of Successful Qualitative Research: A Practical Guide for Beginners Research: A Practical Guide for Beginners' (2014) 19 DOAJ Directory of Open Access Journals 12.
- Glenn A Bowen, 'Document Analysis as a Qualitative Research Method' (2009) 9 Qualitative Research Journal 27.
- Hani Morgan, 'Conducting a Qualitative Document Analysis' (2022) 27 The Qualitative Report 64.

Igor Gontarz, 'Judicial Review of Automated Administrative Decision-Making: The Role of Administrative Courts in the Evaluation of Unlawful Regimes' (2023) 2023 ELTE Law Journal 151.

Jennifer Cobbe, 'Administrative Law and the Machines of Government: Judicial Review of Automated Public-Sector Decision-Making' (2019) 39 Legal Studies 636.

Joe Tomlinson, Katy Sheridan and Adam Harkens, 'Judicial Review Evidence in the Era of the Digital State' [2020] SSRN Electronic Journal 740-760.

Karen Chapman, 'Characteristics of Systematic Reviews in the Social Sciences' (2021) 47 The Journal of Academic Librarianship 102396.

Lee Epstein and Gary King, 'Empirical Research and The Goals of Legal Scholarship: A Response' (2002) 69 University of Chicago Law Review.

Lisa Webley, 'Qualitative Approaches to Empirical Legal Research' in Peter Cane and Herbert M Kritzer (eds), *The Oxford Handbook of Empirical Legal Research* (Oxford University Press 2012) p 926–950.

Lorelli S Nowell and others, 'Thematic Analysis: Striving to Meet the Trustworthiness Criteria' (2017) 16 International Journal of Qualitative Methods.

Mark Petticrew and Helen Roberts, *Systematic Reviews in the Social Sciences : A Practical Guide* (John Wiley & Sons 2006) p 87.

Matt Davies and Michael Birtwistle, 'Regulating AI in the UK ' Report (2023) Ada Lovelace Institute Available at <https://www.adalovelaceinstitute.org/report/regulating-ai-in-the-uk/> .

Michael McConville and Wing Hong Chui, *Research Methods for Law* (Edinburgh University Press 2017) p.20.

Michael Quinn Patton, *Qualitative Research & Evaluation Methods: Integrating Theory and Practice* (4th edn, SAGE Publications 2015) 84-169.

Michèle Finck, 'Automated Decision-Making and Administrative Law' in Peter Cane and Other (eds), *The Oxford Handbook of Comparative Administrative Law* (Oxford University Press 2020) P 655-676.

Patrick Ngulube, 'Qualitative Data Analysis and Interpretation: Systematic Search for Meaning' in ER Mathipa and MT Gumbo (eds), *Addressing research challenges: making headway for developing researchers* (Mosala-MASEDI Publishers & Booksellers 2015) p.131-156.

Rebecca Williams, 'Rethinking Administrative Law for Algorithmic Decision-making' (2021) 42 *Oxford Journal of Legal Studies*.

Richard Moorhead, Karen Nokes and Rebecca Helm, 'Post Office Scandal Project: Issues Arising in the Conduct of the Bates Litigation' (2021) Evidence Based Justice Lab Available at <https://evidencebasedjustice.exeter.ac.uk/wp-content/uploads/2021/08/WP1-Conduct-of-the-Bates-Litigation-020821.pdf>.

Sarah Nason, 'Oversight of Administrative Justice Systems' in Marc Hertogh and others (eds), *The Oxford Handbook of Administrative Justice* (Oxford University Press 2021).

Sharan B Merriam and Elizabeth J Tisdell, *Qualitative Research : A Guide to Design and Implementation* (4th edn, John Wiley & Son 2015) p 175.

Terry Hutchinson, 'Doctrinal Research : Researching the Jury' in Dawn Watkins and Mandy Burton (eds), *Research Methods in Law* (2nd edn, Routledge 2017).

Victoria Clarke and Virginia Braun, 'Thematic Analysis' (2017) 12 *The Journal of Positive Psychology* 297.

Virginia Braun and Victoria Clarke, 'Conceptual and Design Thinking for Thematic Analysis'

(2022) 9 Qualitative Psychology 3.

Virginia Braun and Victoria Clarke, 'Using Thematic Analysis in Psychology' (2006) 3

Tandfonline 77.

William Baude, Adam Chilton and Anup Malani, 'Making Doctrinal Work More

Rigorous: Lessons from Systematic Reviews' (2017) 84 University of Chicago Law

Review.

Appendix 1: Analysed documents

#	Code	Document	Source	Type of Document	Area of Law	Challenge	Type of Information
Government							
1	G1	AI Barometer Report	1	1	2,5,7	1, 6, 8, 12,	3
2	GV2	Auditing algorithms: the existing landscape, role of regulators and future outlook	1	3	8, 9	1, 7, 10	3
3	GV3	Ethics, Transparency and Accountability Framework for Automated Decision-Making	1	3	1, 6	1, 8	3
4	GV4	A pro-innovation approach to AI regulation: government response	1	4	10	1, 7, 13	3
5	GV5	Review into bias in algorithmic decision-making	1	1	1, 2, 4, 7	1, 3, 6, 7, 10, 12	3
6	GV6	Study on the Impact of Artificial Intelligence on Product Safety	1	4	3, 9	1, 7, 12	1
7	GV7	The King's Speech 2023	1	2	7		2
8	GV8	Predictive Policing- West Midlands Police. Response to request based on Freedom of Information Act (736A/22)	1	4	2		2
9	GV9	Artificial Intelligence and Public Standards A Review by the Committee on Standards in Public Life	1	4	1	1, 7, 12	3
10	GV10	AI in the UK: ready, willing and able (parliament.uk)	1	4	11	1, 6, 7	1

#	Code	Document	Source	Type of Document	Area of Law	Challenge	Type of Information
11	GV11	Automatic Computer-based Decisions: Legal Status, Volume 690: debated on Wednesday 10 March 2021	1	1	10	1, 3, 7	1
12	GV12	The governance of artificial intelligence: interim report	1	1	10	1, 5, 8	3
13	GV13	Artificial intelligence and employment law	1	3	4	1, 7, 8, 11	3
14	GV14	AI and Healthcare	1	1	5	1, 7, 8, 9	1
15	GV15	Policy implications of artificial intelligence (AI)	1	2	2, 5, 10		2
16	GV16	Public Authority Algorithmic and Automated Decision-Making Systems Bill [HL]	1	2	10		2
17	GV17	Potential impact of artificial intelligence (AI) on the labour market	1	1	4	1, 8	3
18	GV18	Interpretable machine learning	1	3			2
19	GV19	Technology rules? The advent of new technologies in the justice system	1	1	1,4,		
20	GV20	the (UK Judicial Attitude Survey England & Wales courts, coroners and UK tribunals 2024)	1	3		11	

#	Code	Document	Source	Type of Document	Area of Law	Challenge	Type of Information
Cases							
21	CJ1	Bates v. Post Office (2019)	2	5	3	1, 2, 4, 5	1
22	CJ2	Public Law Project V. The Information Commissioner (2023)	2	5	1	4, 5	1
23	CJ3	Bridges v South Wales Police (2020)	2	5	2	7, 12	3
24	CJ4	Pantellerisco & others v. Secretary of State for Work and Pensions (2020)	2	8	1	1, 6	1
25	CJ5	Johnson and others v. Secretary of State for Work and Pensions (2019)	2	5	1	1, 7, 10, 11	3
26	CJ6	Ofqual v. ICO (2023)	2	5	1	4, 5, 7, 12	1
27	CJ7	PLP v. ICO (2022)	2	5	1	1, 4, 8	3
28	CJ8	Pa Edrissa Manjang & other v. Uber	2	5	4	2, 6	1

#	Code	Document	Source	Type of Document	Area of Law	Challenge	Type of Information
Institutional Reports							
29	IN1	Machine Learning Algorithms and Police Decision-Making: Legal, Ethical and Regulatory Challenges by Alexander Babuta and Dr Marion Oswald MBE	3	1	2	1, 6, 7	3
30	IN2	Developing AI regulation: findings from PLP's roundtable	3	1	10	7, 9, 10	3
31	IN3	Digital Immigration Status: A Monitoring Framework by PLP	3	1	1, 10	1, 5, 10	3
32	IN4	Machine Learning Used to Stop Universal Credit Payment by PLP	3	1	1	1, 4, 8	3
33	IN5	Transparency mechanisms for UK public-sector algorithmic decision-making systems	3	1	1	1, 5, 8	3
34	IN6	Findings from ICO consensual audits on Freedom of Information of police forces in England and Wales	3	1	2	1, 2, 5	1
35	IN7	Contesting AI explanations in the UK	3	1	1	1, 3, 7, 13	1
36	IN8	Contesting automated decision making in legal practice: Views from practitioners and researchers	3	1	2	1, 8	1
37	IN9	All You need to know about AI adoption in Criminal Justice by Manish Garg	3	1	1	1, 7, 9, 12	3
38	IN10	Legal and regulatory frameworks governing the use of automated decision making and assisted decision making by public sector bodies.	3	1	10	1, 6, 7, 10, 12, 13	1
39	IN11	Reforming the law around the use of automated and assisted decision making by public bodies.	3	1	1	2, 3, 5	3
40	IN12	Surveying Judges about artificial intelligence: profession, judicial adjudication, and legal principles	3	3		11	

#	Code	Document	Source	Type of Document	Area of Law	Challenge	Type of Information
Judges' Statements							
41	JS1	Algorithms, Artificial Intelligence and the Law The Sir Henry Brooke Lecture for BAILII Freshfields Bruckhaus Deringer, London Lord Sales, Justice of the UK Supreme Court 12	4	7	2		
42	JS2	Judge Wright statement	4	7	1	2, 7, 11, 12	1
43	JS3	Lord Sales 'Information Law and Automated Governance, Keynote address at the Information Law Conference Institute of Directors, 24 April 2023'	4	7			

#	Code	Document	Source	Type of Document	Area of Law	Challenge	Type of Information
Expert Evidence					Expert in		
44	EX1	Written Evidence to the Parliament Submitted by Public Law Project	5	6	Legal	1, 3, 4, 7, 8, 10	3
44	EX1	Written Evidence to the Parliament Submitted by Public Law Project	5	6	Legal	1, 3, 4, 7, 8, 10	3
45	EX2	How can the Department of Work and Pensions operate more transparently, lawfully, and fairly?	5	6	Legal	4, 5, 6	1
46	EX3	Professor Andrew Le Sueur, University of Essex, Advisory Evidence on ADM reforms	5	6	Legal	7	3
47	EX4	Written evidence to the Parliament submitted by Dr Alison Powell	5	6	Legal	1	3
48	EX5	Written evidence submitted by The Alan Turing Institute on “algorithms in decision-making” to the House of Commons’ Science and Technology Committee	5	6	Computer and data scientists	1, 7, 13	3
49	EX6	Witness report in ED Bridge v. South Wales Police from Professor Anil Jain	5	6	Computer science and engineering	5	1
50	EX7	The case of transparency, Podcast (voice source) with Joe Tomlinson (https://publiclawproject.org.uk/latest/people-law-power-the-new-podcast-from-plp/)	5	9	Legal	1, 7	3
51	EX8	Witness statements by Carol Krahé in Pantellerisco & others v Secretary of State for Work and Pensions (https://www.judiciary.uk/wp-content/uploads/2020/07/R-Pantellerisco-v-SSWP-Final-Approved.pdf)	5	6	IT	5	3
52	EX9	Witness statements by Ms McMahon regarding the technical and administrative aspects of UC system	5	6	Computer science and technology	10	3