

Algorithmic Governance:
The Implications of the Case Matcher Algorithm for the Refugee Status
Determination Process in The Netherlands

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Abstract

This paper focuses on the Case Matcher algorithm used by asylum decision-officers at the Dutch Immigration and Naturalisation Services (IND). The algorithmic support tool enables users to consult older cases with similar characteristics, allowing for comparison-based decision-making. Case Matcher aims to make the refugee decision process (RSD) quicker and reduce inconsistencies in asylum assessment. The increase in use of algorithms in public administration have resulted in the concept of Algorithmic Governance, a topic concerned with the decisions made by algorithms about refugees and asylum-applicants as a way for institutions to control movement using technology. With Case Matcher, Algorithmic Governance becomes increasingly relevant within Dutch government bodies. This paper therefore questions: *How does Algorithmic Governance influence the decision-making process of IND asylum decision-officers in the Netherlands?* From interviews conducted with 14 asylum decision-officers, the implications of Case Matcher for the work of employees were analysed through the lens of ethical risks, responsibility & accountability, and efficiency & effectiveness. While Case Matcher was expected to significantly alter credibility thresholds and make comparison the default mode of judgment, the findings reveal more complex implications. Participants highlight a strong sense of responsibility regarding case assessment and emphasise the need to remain critical and self-aware when consulting Case Matcher to compare cases. Frequent use reduces the perceived efficiency of refugee status determination, and workload is seen as minimally affected by Case Matcher. Ethical risks such as over-reliance and misinterpretation are at risk when employees fail to receive coherent training sessions. However, these ethical risks appear to be mostly an effect of the organisational environment of the IND. That is; ethical risks are dependent on how employees choose to interact with the tool and how the organisational environment of the IND frames its use. This research shows that Algorithmic Governance does not have to erode human judgement and critical thinking in migration governance but can be a way of governing where human agency, institutional culture and tool design intersect. These findings help to move the conversation of Algorithmic Governance in the context of RSD beyond technological determinism and credibility discretion towards one that is more closely related to organisational behaviour and the collaboration of humans and algorithms. Future research should decentre algorithms and instead research how the use of algorithms such as Case Matcher depends on how the algorithm is interpreted and institutionalised within migration government bodies like the IND.

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1. Introduction

Asylum has been a socio-politically relevant issue in the Netherlands since the 2015 ‘crisis’, which forced many refugees into complicated arrival situations as the Dutch government struggled to keep up with the sudden surge of refugees (Van Heelsum, 2017, p.2141-2143). Ever since, Dutch political discourse is dominated by questions about how to effectively manage the arrival of migrants. All the while, IND asylum decision-officers are tasked to assess these individuals to determine whether they are eligible to receive refugee (or protection) status under European law. In a political climate focused on migration control and management, research into this governance process can contribute to informed policymaking and provide evidence-based perspectives for public debate.

One of such ways to do so is by researching the technological tools that employees use in the refugee status determination process. In 2021, the Dutch government introduced an algorithm titled ‘Case Matcher’ into the asylum decision-making process of the IND. As officially stated, the purpose of the algorithm is as follows: “Staff processing asylum applications can use this algorithm to search for similar applications to treat applications equally,” (*Case Matcher*, n.d.). In essence, employees can find previously assessed cases by giving the algorithm certain keywords which they choose themselves and consequently make decisions with the help of past assessed cases.

However, scholars are voicing concerns about the use of algorithms in asylum decision-making. Namely, relying on algorithms to evaluate humans may be perceived as degrading (Lee, 2018) and may violate privacy of the person’s data concerned (Srivastava, 2021). Moreover, while the public shows relatively high levels of trust in public policy algorithms (Kennedy et al., 2022), the development of technologies requires concrete enhancements in human oversight to prevent bias (Green, 2022).

This thesis will focus on the algorithm used among decision-officers of the IND in the process of assessing asylum cases. Case Matcher finds societal relevance in the fact that it is prone to similar concerns stated above. By analysing decision-making authority, efficiency, ethical considerations, and responsibility, this research will provide transparency towards the public and address bias or other ethical concerns in order to protect users, as well as those whose data is collected. This research will moreover provide an understanding of Case Matcher’s implications for the work of government employees, such as the risk of employees becoming over-reliant on algorithms and deprioritising human judgement and critical thinking (Alon-Barkat & Busuioc, 2024; Levy et al., 2021). Case Matcher has not been studied extensively,

especially not from the perspective of its user, indicating a gap in academic literature. Studying the mechanisms of Case Matcher contributes to the discussion on Algorithmic Governance, which is “a form of social ordering that relies on coordination between actors, is based on rules and incorporates particularly complex computer-based epistemic procedures,” (Katzenbach and Ulbricht, 2019). This thesis will potentially help develop a framework for creating ethical and beneficial algorithms in migration governance.

Additionally, this thesis builds on prior work in migration studies to emphasise the importance of ethical concerns in the decision-making procedure. Refugee Status Determination (RSD) is “the decision-making process that States and the UNHCR use to determine whether an asylum seeker meets the criteria to be recognized as a refugee according to the definition in the Convention relating to the Status of Refugees,” (Kinchin & Mougouei, 2022). The concept of credibility in RSD as a subjective criterion has been a prominently debated topic (Kagan, 2002; Thomas, 2006; De Bruïne et al., 2023). Analysing Case Matcher’s piece in credibility determinations will contribute to this conversation and can potentially help develop improved practices for ensuring fair and transparent decision-making.

Thus, my research question is: *How does Algorithmic Governance influence the decision-making process of IND asylum decision-officers in the Netherlands?* To research this, I will take Case Matcher as a case study and divide my research into the following sub questions:

- How does Case Matcher affect the responsibility & accountability of IND employees regarding their role in the asylum process?
- How does Case Matcher affect the workload and efficiency of IND decision-officers?
- How does Case Matcher’s use align with ethical principles of (Algorithmic) governance (including fairness, bias and over-reliance)?

The following chapter discusses theoretical concepts relevant to this study. Chapter 3 provides an overview of the methods and operationalisation that were used to gather data. Chapter 4 contains the analysis of all relevant empirical findings, which are consequently discussed and concluded in chapter 5. Accordingly, this paper is finalised with a set of policy recommendations for future implementations and improvements of algorithms in asylum governance bodies such as the IND.

2. Theoretical framework

This section discusses the main theoretical concepts of this research. It furthermore introduces several expectations that derive from the theoretical explanations and could potentially explain the outcome of this research.

2.1 Refugee Status Determination

Credibility assessment

Refugee Status Determination (RSD) is “The decision-making process that States and the UNHCR use to determine whether an asylum seeker meets the criteria to be recognized as a refugee according to the definition in the Convention relating to the Status of Refugees,” (Kinchin & Mougouei, 2022). The process of RSD is broadly discussed among scholars and disciplines. For decades, experts have been especially concerned with the concept of credibility as a subjective criterion (Kagan, 2002; Thomas, 2006). If, as is commonly the case, asylum seekers cannot physically provide evidence for their reasons of seeking international protection, such as through official documents, they will have to depend on being deemed credible in their testimonies. However, these decisions often rely on subjective judgment that varies between decision makers. And in most RSD systems globally, rejections are primarily driven by negative credibility conclusions (Kagan, 2002, p.367-8). De Bruïne et al. (2023) point out that culture might impact memory collection, and that differences in cultural background between the asylum seeker and decision maker can impact the credibility assessment, while Liodden (2020) adds that translation misunderstandings, trauma, and distrust can affect whether decision makers find testimonies credible enough. Because of subjectivity in the credibility criterion, there are numerous inconsistencies in cases that should reach similar conclusions. This happens not only internationally, but also on national and local levels (Liodden, 2020, p.647). While the European Union has helped salvage inconsistencies with the Qualification Directive and other measures within the Court of Justice of the European Union (Storey, 2013, p.118), not one case is alike, and it remains difficult for decision makers to stay coherent.

Case-comparison

A commonly used strategy to reduce discretion and inconsistency in RSD is through comparative assessment of cases. Liodden (2020) explains how newly hired asylum officers

often rely on comparisons with previous cases to gain familiarity with credibility assessments and learn how to interpret asylum claims appropriately (pp. 658–660). However, Liodden questions the broader implications of comparing asylum cases, particularly regarding credibility assessment decision-outcomes.

In fact, Pärnamets et al. (2019) find that at the Swedish Migration Agency, repeated exposure to similar asylum stories and judgements reduced the likelihood of officers granting asylum. The more experienced the employee, the more apparent, as these individuals are used to regulating their emotions (Pärnamets et al., 2019, p.576).

Similarly, Liodden (2020) finds that a comparative approach in the assessment of discretionary cases increases stricter credibility thresholds, as decision makers tend to view repeated identical claims as potentially fabricated. “Stories that are similar and do not offer anything new compared to previous claims will easily be deemed less credible,” (p.661). She explains that exposure to multiple comparable cases appears to shift the norms for credibility and perceived risk, making it more difficult for individual claims to be evaluated on its own (p.664). Thus, while comparison plays a valuable role in training new decision-makers and ensuring consistency, Liodden warns that excessive reliance on comparison risks institutionalising prior patterns, no matter if these are unfair or inaccurate. Instead, ensuring that equal treatment does not get lost in repeating flawed decisions remains crucial to RSD (p.665). Instead, she argues, the focus should be on assessing whether a case is reasonably likely, rather than convincing in comparison to prior cases (p.666).

2.2 Algorithms, algorithmic selection, and ethical concerns

It is important to identify what an algorithm exactly is in order to determine under which definition Case Matcher falls and how it consequently relates to migration governance. This is difficult however, as the term is differently understood among scholars of various disciplines. Simply put, an algorithm is a “set of rules that precisely define a sequence of operations” (Stone 1971, p. 4). To Just and Latzer (2017), “algorithms are problem-solving mechanisms,” (p.239). And for Yeung (2017), algorithms are “encoded procedures for solving a problem by transforming input data into a desired output,” (Yeung, 2017, p.506).

All in all, determining a specific definition is complex. However, a widely accepted technical definition is that of Cormen et al. (2009): “An algorithm is any well-defined computational procedure that takes some value, or set of values, as input and produces some value, or set of values, as output. An algorithm is thus a sequence of computational steps that

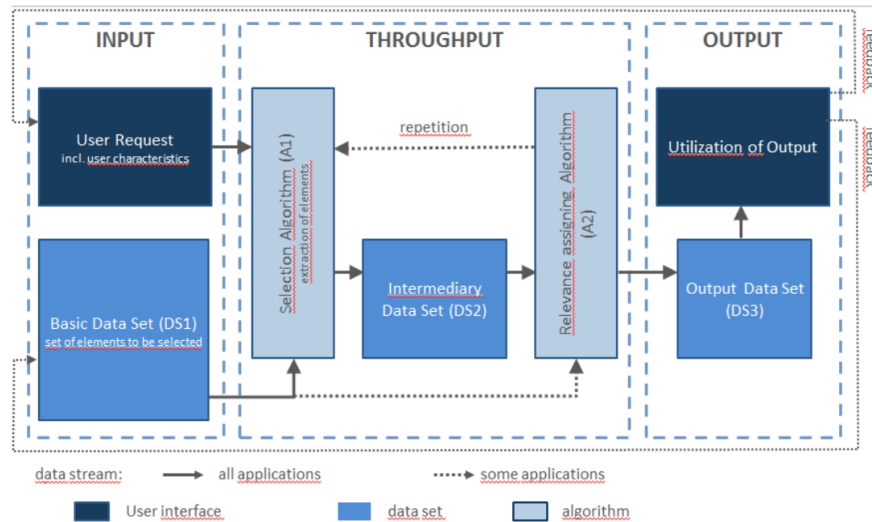
transform the input into the output,” (Cormen et al., 2009, p.5). The authors emphasise that algorithms can moreover be seen as a “tool for solving a well-specified computational problem,” (p.5). This implies that an algorithm is a set of instructions for solving a problem: the algorithm explains exactly how to do it. Examples of problems that can be solved by algorithms include quickly providing large amounts of information on search engines and distributing limited resources in the most efficient way (Cormen et al., 2009, p.6-7). Despite this being a technical definition and not a socio-political one, I will adopt Cormen et al.’s explanation as it avoids an invalid understanding of what qualifies as an algorithm in the context of this research.

Yeung (2017) points out that software engineers might focus on the technical understanding of algorithms, while socio-political scientists adopt a more sociotechnical approach. In socio-political scientists’ view, the study of algorithms includes not only the algorithm itself, but also those who design them, the data and users they interact with, and the institutions that provide the algorithm. The labelling of something as ‘algorithmic’ goes beyond its technology. Instead, it emphasises the structures embedded in algorithmic systems. Algorithms fulfil practical functions but are also influenced by underlying beliefs and values (Yeung, 2017, p.506).

Historically, social scientists have shown interest in the socio-cultural dimensions of search engines on the internet and its ethical implications (Scheitle, 2011; Goldman, 2006). For example, Mowshowitz and Kawaguchi (2004) find that search engines vary in degree of bias depending on the subject users are researching. Similarly, Van Dijck (2010) focuses on the role of Google Scholar’s algorithm in co-producing academic knowledge. When a researcher puts keywords into the search bar, the algorithm prioritises academic works that have been cited extensively over works that have been cited less often. Van Dijck points out that this does not necessarily mean that high quality articles appear on top, but more so a “winner-takes-all” effect (p.580). Algorithms that build on a large number of searches typically produce reliable information. Sunstein (2006) points out that the accuracy of a search result improves when an algorithms’ users have a strong understanding of the topic they are researching, consequently reducing bias and distortion. Van Dijck (2010) finds that Google Scholar’s users are likely educated individuals, stating that “it could be expected that the advanced expertise of its users renders the search engine more intelligent over time,” (Van Dijck, 2010, p.580). This raises the question, however, how much responsibility and accountability search engines may expect users to take when utilising the algorithm, and whether this then means that search engine algorithms are entirely resistant to bias and distortion.

Latzer et al. (2014) extend the research on search engine algorithms by introducing the overarching concept of ‘**algorithmic selection**’. These are algorithmic applications that “automatically select information elements and assign relevance to them,” (Latzer et al., 2014, p.1-2) such as a search engine (see figure 1).

Figure 1. Input-Throughput-Output model of algorithmic selection (Latzer et al., 2014).



Accordingly, algorithmic selection promotes the optimisation of processes, which is especially beneficial for business strategies and economic desires. It enhances efficiency in enabling faster processing of vast data through automation, reducing costs in production, and strengthening strategic decision-making through data-driven, evidence-based insights (Latzer et al., 2014, p.2).

Not unlike any other study of algorithms, algorithmic selection poses a set of social risks. Latzer et al. point out three overarching dimensions: risks to fundamental rights and freedoms, influences on how reality is perceived and interpreted, and challenges to the development of humanity. They furthermore identify 8 specific risks: “1) manipulation, (2) diminishing variety, the creation of biases and distortions of reality, (3) constraints on the freedom of communication and expression, (4) threats to data protection and privacy, (5) social discrimination, (6) violation of intellectual property rights, (7) possible transformations and adaptations of the human brain, and (8) uncertain effects of the power of algorithms on humans,” (Latzer et al., 2014, p.20-21).

As an algorithmic selection tool implemented in the context of migration governance, Case Matcher is potentially sensitive to many of the social risks outlined by Latzer et al. (2014).

Particularly those related to cognitive influence, bias reinforcement, and diminished human autonomy in decision-making. Therefore, from Latzer's three dimensions of social risks and concerns in RSD literature I derive the following expectations:

EXPECTATION 1. Using Case Matcher affects how policies are interpreted, reducing inconsistencies in RSD, but institutionalising credibility norms.

EXPECTATION 2. Using Case Matcher will cause decision-makers to show signs of over-reliance on the algorithm and lose critical perspective due to influences from previous decision makers.

2.3 Algorithmic governance and asylum

In public governance, algorithmic tools are oftentimes regarded as favourable for the process of public services, as they enable supported decision-making, and higher efficiency and effectiveness (Gritsenko & Wood, 2020; Dekker et al., 2022). Kasapoglu et al. (2021) study algorithms in migration governance from the perspective of its subject targets: the asylum seekers. They find that refugees recognise that algorithms can be useful in the refugee decision making process but require human oversight to ensure the unique social contexts and personal experiences of asylum seekers. This can be explained by the fact that people generally distrust algorithms in making moral and legal decisions, as they are not empathetic, experienced social 'beings' (Kasapoglu et al., 2021, p.3).

The increasing implementation of algorithms and new technologies in migration governance has led to questions on how to regulate its use; introducing the multidisciplinary field of **Algorithmic Governance**. As Gritsenko and Wood (2020) point out, algorithms can serve as instruments for guiding a governance process, thereby potentially reshaping power dynamics and influencing policy outcomes. In essence, Algorithmic Governance includes both the intentional and unintentional outcomes of algorithmic selection systems. While there seems to be no definite consensus about the definition hereof, Katzenbach and Ulbricht (2019) argue that Algorithmic Governance is "a form of social ordering that relies on coordination between actors, is based on rules and incorporates particularly complex computer-based epistemic procedures," (Katzenbach and Ulbricht, 2019, p.2). In essence, Algorithmic Governance is the technological transformation of traditional governance. By using automated, data-driven decision-making to coordinate actions and enforce rules and policies, governance strays away from its traditional, non-technological ways. In the realm of governing migration, Algorithmic

Governance refers to the decisions made by algorithms about refugees and asylum-applicants as a way for institutions to control movement using technology (Kasapoglu et al., 2021, p.2).

Technological determinism theorises that technology drives social change, and influences cultural values and norms (Dafoe, 2015, p.1051). From a deterministic view, Algorithmic Governance can change governance by making it more inclusive, consistent, and by facilitating increased diversity (Katzenbach & Ulbricht, 2019, O'Reilly, 2013). On the other hand, critics point out that assigning controversial decisions to technology can obscure their inherently political nature (Morozov, 2014, Blanke & Aradau, 2022).

Additionally, Algorithmic Governance faces criticism regarding responsibility and accountability. Refugees and asylum-seekers are increasingly being monitored by algorithmic tools in the European asylum procedure, leading to questions about who should be held responsible for this data, and for the consequences of heightened securitisation of refugees because of algorithm use (Dekker et al., 2022). Moreover, algorithms in the RSD process could blur the lines between users and their sense of responsibility and accountability in granting refugee status (Kinchin, 2021).

In the discourse on Decision Support Systems (DSS), “computer-based tools that help actors make informed decisions,” (Shim et al., 2002), responsibility and accountability is especially relevant. DSS are oftentimes used in governance bodies to help policy implementation involving decision making (Borovic et al., 2013). While the algorithm studied in this research does not fit within this category, DSS are still built on algorithms and share similar goals with systems of algorithmic selection in providing accurate, relevant, and helpful outcomes based on data analysis. They are both data-driven, and use accuracy, speed and relevance to help users reach a certain conclusion. Moreover, as both systems can reflect biases in their data or programming, its questions on responsibility and accountability can be evaluated in similar ways (Shim et al., 2002).

Heaton et al. (2023) find that for DSS, responsibility guarantees that the system is ethically designed and implemented, with careful consideration of its effects on society. Whereas accountability “examines who is answerable to the system’s performance and outcomes, including any errors, biases, or unintended consequences,” (p.2). Adensamer et al. (2021) extend this to the changing work environment, including that of governmental agencies. They distinguish between Organisational Responsibility and Organisational Accountability. To them, responsibility consists of “liability, blame and burden within the entire socio-technological system surrounding organisational algorithmic decision support use,” (Adensamer et al., 2021, p.2). Implying that a company or governmental agency should be held

responsible for the effects of its algorithm-based decision-making, including legally, when facing criticism for mistakes, and managing the challenges that come with using these technologies. Contrarily, accountability refers to “questions of attribution, choice and obligation, focussing especially on the organisational embedding of (DSS) systems,” (Adensamer et al., 2021, p.2). Accountability is thus about establishing who is responsible for decisions, and what choices these individuals made to reach them.

In the context of Case Matcher, the integration of algorithmic recommendations into case processing may create ambiguity around the roles and obligations of individual decision-makers, thereby obscuring both organisational responsibility and individual accountability as outlined by Kinchin (2021) and Adensamer et al. (2021).

EXPECTATION 3. Using Case Matcher obscures the responsibility and accountability of the decision-maker, placing responsibility on precedent.

As Dekker et al. (2022) point out, Algorithmic Governance has shown to improve efficiency and effectiveness for the work of government employees. Most recent literature is concerned with the efficiency and effectiveness of newer technologies such as AI integration in RSD (Kinchin, 2021; Nafees, 2020), but not so much about algorithmic selection systems. Still, migration government bodies such as the IND continue to deal with high numbers of asylum applications and more cases than their workforce can properly handle. The impact of simpler algorithmic tools such as Case Matcher on RSD remains significant, and efficiency and effectiveness directly impact how quickly cases are processed. Therefore, studying these aspects provides insights into whether the algorithms in use in fact contribute to reducing backlogs, or perhaps unintentionally create new inefficiencies.

Given that there is limited to no research available on the efficiency and effectiveness of algorithmic selection tools in migration governance, I will draw once more on DSS literature to define these concepts in accordance with the aim for my research. After all, although algorithmic selection might not involve direct decision-making or human judgement, it still plays a role in assisting with decisions. It moreover aims to improve the decision-making processes by providing the most relevant and optimal outcomes quickly and accurately. Therefore, efficiency in algorithmic selection is nevertheless concerned with how well the system performs its task, and the same metrics such as accuracy, speed, and relevance, are important in evaluating both types of systems. Chan (2008) argues that a DSS “is efficient if it assists users in their decision-making in a timely manner,” (p.219.) While effectiveness is

concerned with how the DSS characteristics affect use of the algorithm to complete a task. Case Matcher, as an algorithmic selection tool, functions similarly to a DSS by assisting users in identifying optimal outcomes quickly and accurately. It offers relevant and accurate suggestions and consequently accelerates the workflow. Thus, based on Chan's (2009) perception of efficiency and effectiveness and given that Dekker et al. (2022) has established that Algorithmic Governance improves efficiency and effectiveness of government employees, I expect the following:

EXPECTATION 5. Using Case Matcher enhances the effectiveness and efficiency of decision making, decreasing a sense of stress, but making comparison the default mode of judgement, rather than a reflective choice.

3. Research design

The following section discusses the methods of data collection, sampling strategies, data analysis, and operationalisation. It furthermore discusses any ethical considerations that are applicable to this research project.

3.1 Case study

To answer my research question, I have conducted case study research. A case study is “the in-depth examination of a single instance of some social phenomenon,” (Babbie, 2016, p.326). Doing so has allowed me to develop an in-depth understanding of a specific system (Walliman, 2006, p.46) and therefore suited my interest in the effects that Case Matcher has on RSD in the Netherlands. I do not claim that the Case Matcher algorithm serves as a generalisation. Instead, Case Matcher exemplifies the use of algorithms in migration governance bodies (Walliman, 2006, p.46). This way, my case study has the potential to shed light on existing questions and challenges related to similar issues within the same broader field of migration governance (Morgan, 2019, p.9).

3.2 Data collection

I have conducted *qualitative research* using a set of 14 *semi-structured interviews*. These are “structured and unstructured sections with standardized and open-format questions,” (Walliman, 2006, p.92) and allowed for interviewees to describe expert knowledge as well as lived experiences and opinions.

My pool of interview participants is based on one IND location. Specifically, ‘IND Aanmeldcentrum Schiphol’. Evidently, this was most efficient for data collection, as it reduced travel costs and allowed me to visit multiple interviewees in a day. As the algorithm is implemented in a standardised way at every IND location in the Netherlands, focusing on a singular location will allow me to present Schiphol as a reflection of systemic behaviours and trends across all locations.

3.3 Sampling strategy

The interview sample is chosen from a pool of IND asylum decision-officers. IND employees are the main users of Case Matcher and are therefore key in understanding the implications of the algorithm for their work. Choosing my subjects occurred through *non-probability sampling*, whereby interviewees were non-randomly selected. In particular, I used a *purposive sampling* strategy. This is utilised to deliberately select participants based on specific characteristics that align with the research objectives (Babbie, 2016, p.186-7). In the context of this research, the inclusion criteria concern subjects who (1) work at the IND as asylum decision-officers at location Schiphol, and (2) utilise or have utilised Case Matcher in the decision process of asylum requests. Regarding the degree of experience, I have made no specific distinction, as I believe both new and experienced users are able to provide unique insights. All IND decision-officers have the option to use Case Matcher in their work, making them likely to contain a relatively high degree of knowledge on the algorithm and its effects, making them most useful for my research.

Even though the collected data is treated confidentially, IND employees might not be fully willing to open up about the negative effects of Case Matcher. For instance, they could fear losing their job or indirectly offending coworkers or higher-ups. To address this, I have additionally approached individuals who no longer work as asylum decision-officers at the IND but nevertheless used it when they were still employees. The selection of these interviewees was done through a *purposive sampling strategy* and contacted primarily through LinkedIn. Insights from ex-employees allowed me to form a more complete picture of the algorithms and also allowed me to draw comparisons between employees and ex-employees’ answers to determine whether subjects felt fully comfortable to share their opinion. These subjects (1) have worked at IND Schiphol as asylum decision-officer anywhere between the introduction of the algorithm and now, and (2) have used Case Matcher in the decision process.

Furthermore, I used a *snowball sampling strategy*, where located subjects suggested additional interviewees (Babbie, 2016, p.188), to expand on my own network and be referred to subjects I would otherwise not have access to.

Figure 2 illustrates all participants and assigned code numbers.

Figure 2. *Participants and their assigned codes.*

Individual	Current employment status
P.1	employed
P.2	employed
P.3	employed
P.4	employed
P.5	employed
P.6	employed
P.7	employed
P.8	employed
P.9	employed
P.10	employed
P.11	no longer employed
P.12	no longer employed
P.13	no longer employed
P.14	no longer employed

3.4 Data analysis

After collecting all the data, the interviews were transcribed and coded in ATLAS.ti. Coding entails the classification of individual pieces of data into concepts or short phrases (Babbie, 2021, p.387) and is an important tool to identify patterns within data. As I have established a guiding theoretical framework and supplementary expectations, I analysed my data through a deductive method of pattern matching. This strategy is especially useful for case study research, as it allows for empirical data to be compared to predefined theoretical predictions (Almutairi et al., 2014).

This method was triangulated with inductive reasoning to further develop existing theories. Grounded Theory Method is an inductive approach “in which theories are generated solely from an examination of data rather than being derived deductively,” (Babbie, 2021, p.384). This form of analysis is especially relevant for my research given that there exists no specific theoretical framework on the use of Case Matcher-esque algorithms in migration government bodies. While several theories support the research question, I aimed to prevent tunnel vision and stay open to other possible themes that I personally looked over. This way I could most efficiently and effectively contribute to the development of a theoretical framework that is more specific to the topic of my research.

I coded through a combination of *open coding* and *axial coding*. *Open coding* allowed me to analyse the text without a predetermined view (Babbie, 2021, p.388). This way, I was able to identify overarching themes that did not directly relate to the theoretical framework of my research. *Open coding* thus prevents researcher bias and facilitates the development of alternative theories. *Axial coding* facilitated the identification of more overarching themes, which has enhanced the depth of my analysis by providing an overview of hierarchy in the identified patterns (Babbie, 2021, p.389).

3.5 Ethical considerations

As a researcher, it is important to be aware of the responsibilities of data collection and analysis, as well as my relationship with interview subjects (Zapata-Barrero & Yalaz, 2020, p.271). I have used Case Matcher myself in the past and could potentially be biased. To address this, I have taken a social constructivist approach of objectivity whereby I rejected objectivity altogether. Instead, truth depended on perspective rather than being universal (Zapata-Barrero & Yalaz, 2018, p.101). Additionally, I remained aware of my own values and preferences and ensured to consistently follow the methods that have been established above.

Moreover, I ensured to be respectful towards my interview subjects through informed consent, voluntary participation, confidentiality, and research transparency toward the interviewees and readers (Arfin, 2018). As I previously mentioned, some participants might be careful to express their true feelings in fear of facing consequences at work. To address this, I have assured participants that their identities will not be linked to anything they say. I moreover emphasised confidentiality in both my consent form and at the beginning of the interview. Third, I offered participants the ability to conduct interviews in neutral spaces where they feel freer to express their thoughts, such as in a cafe or at home.

3.6 Operationalisation

The following table operationalises how the effects of Algorithmic Governance on the decision-making process of asylum applications are to be measured. It showcases the independent variable as Algorithmic Governance, and the dependent variable as Refugee Status Determination.

Theoretical concepts	Principles /Categories	Concepts & Definitions	Source of data collection	Empirical Indicators
<i>How:</i> <u>Algorithmic Governance</u> <i>A form of social ordering that relies on coordination between actors, is based on rules and incorporates particularly complex computer-based epistemic procedures, (Katzenbach & Ulbricht, 2019).</i> <i>Influences:</i>	Ethical implications	<u>Algorithmic Selection</u> <i>Services that automatically select information elements and assign relevance to them (Latzer et al., 2016).</i> <u>Categories of social risks of Algorithmic Selection:</u> Divided into the following: 1. manipulation, 2. diminishing variety, the creation of biases and distortions of reality, 3. constraints on the freedom of communication and expression, 4. threats to data protection and privacy, 5. social discrimination, 6. violation of intellectual property rights, 7. possible transformations and adaptations of the human brain, 8. uncertain effects of the power of algorithms on humans (Latzer et al., 2016)	1. Interviews with IND employees	1. Do subjects mention human rights, social risks, bias, data protection, transparency, inaccuracies, unintended consequences, over-reliance, discrimination, freedom, etc. If so, how?
<u>Refugee Status Determination (RSD)</u> <i>The decision-making process that States and the UNHCR use to determine whether an asylum seeker meets the criteria to be recognized as a refugee according</i>	Responsibility & Accountability implications	<u>Organisational Responsibility:</u> “Liability, blame and burden within the entire socio-technological system surrounding organisational algorithmic decision support use (including, but not limited to the legal framework).” <u>Organisational Accountability:</u> “Concerned with questions of attribution, choice and obligation, focussing especially on the organisational embedding of ADS systems.”	1. Interviews with IND employees	1. Do subjects mention responsibility and accountability? Do they address an understanding of their role, awareness of Case Matcher’s functioning, justification, training, oversight, legislation? If so, how?

to the definition in the Convention relating to the Status of Refugees, (Kinchin and Mougouei, 2022).

	(Adensamer et al., 2021)		
Efficiency & Effectiveness implications	<u>Decision-Support Systems (DSS)</u> <i>Computer technology solutions that can be used to support complex decision making and problem solving.</i> (Shim et al., 2002). <u>Effectiveness:</u> How the DSS characteristics affect use of the DSS to complete a task. <u>Efficiency:</u> Does the DSS assist users in their decision-making in a timely manner? (Chan, 2008)	1. Interviews with IND employees	1. Do subjects make time-related comments, address technical performance, effort, ease of use, or comment on quality of/impact on RSD? If so, how?

4. Empirical findings and analysis

4.1 An official explanation of Case Matcher

Case Matcher was first published in July 2021 but not implemented for use until 2023. While officially used by the IND, its external provider is a company called Knowledge Plaza. In the Algorithm Register, the Dutch government has published an official webpage on the details of Case Matcher, divided into sections *General information*, *Responsible use*, and *Operations* (Case Matcher, n.d.). This is the only officially published source on Case Matcher. Therefore, the information on the webpage will be presented here to sketch a general understanding of the algorithm.

The section on *Responsible use* provides transparency through explanations on Case Matcher's goal and impact, considerations, human intervention, risk management, and legal basis.

Officially, the aim of Case Matcher is for decision-makers to “search and find all similar asylum applications faster,” (Case Matcher, n.d.). By putting in keywords such as year, document type, or client information, decision-makers can speed up the application process and treat similar asylum applications in a fair and equal way. This idea of faster processing returns in the

considerations section, which emphasises the possibility of more equal and faster case assessment because of Case Matcher. When providing Case Matcher with keywords, the algorithm will retrieve a list of documents and asylum applications that match the entered search terms. Consequently, the decision-officer could decide to “copy, for example, the legal grounds on which an application has been approved or rejected in the past,” (*Case Matcher*, n.d.). The webpage argues that “This may allow the employee to process the application faster,” (*Case Matcher*, n.d.).

Under *human intervention* and *risk management*, the webpage provides transparency by outlining potential risks that the algorithm could bring to the RSD process. However, it also explains how the IND prevents this. In essence, the decision-officer examines the search results to determine whether they include information that is relevant for their case or not. Additionally, as migration policies and their implementation can change over time, the user is expected to base their decision on the policy that is currently in effect. With this, the Dutch government recognises that decision-makers should remain self-aware and think critically when utilising Case Matcher. *Human intervention* and *risk management* furthermore address issues of data protection, stating that “The IND is bound by privacy rules under the GDPR,” (*Case Matcher*, n.d.) EU legislation that aims to protect the privacy of citizens and ensure a uniform application of privacy legislation. Access to documents and asylum applications is restricted and cannot be viewed without proper authorisation. Moreover, decision-makers should follow specific training on Case Matcher to ensure that they are aware of how to use it. Last, the webpage addresses the responsibility of decision-makers. The user remains the ultimate decision-maker and ‘expert’. Users are not allowed to base their final judgements solely on the algorithm's output, but must consider policies, guidelines and current events (*Case Matcher*, n.d.). Consequently, *Operations* contains information on what data the algorithm is built and how its technical design operates.

Much like a search engine, or other algorithmic selection tools, Case Matcher scans its database containing asylum applications and related documents and assigns them relevance. Textbox 1 explains how there are two steps used to evaluate relevance.

Textbox 1. Technical design of Case Matcher (*Case Matcher*, n.d.)

1. The employee can filter in the main screen by, for example, year and nationality (which is a highly relevant variable in an asylum application) and can search by terms. These search terms are then searched in the filtered documents and the documents where they occur (whether in combination or not) come up in a list. This list of documents is ordered by relevance; the higher, the more (possibly) relevant these documents are. This relevance score is determined by standard search algorithms. A document is ranked higher if terms occur more often and also in combination with each other. The employee can then check the documents themselves to see if they are relevant to the case to be handled.
2. The employee can also choose to have the found documents aggregated (merged) at case level. The documents that were filtered and in which the search terms came up are now listed per asylum application and presented in a table. Now the employee does not see a list of documents but a list of asylum applications, and again, the higher the asylum application is in the list, the more relevant it may be. In this case, relevance is determined by a scoring mechanism based on document type.

Thus, in the first step, relevance is based on how often the search terms appear and whether they appear together in the same document. This means the algorithm ranks results higher if the keywords show up frequently and in combination. In the second step, instead of looking at individual documents, the decision-maker searches at the level of asylum applications. Here, relevancy is assigned based on a scoring mechanism that is developed with help of *experts*. Essentially, documents containing asylum narratives or a summary of the asylum application are higher ranked than others (*Case Matcher*, n.d.).

Finally, the webpage mentions that the algorithm is legally based on Aliens Act 2000, sections 107 and 107a, which ensures the protection of asylum applicants' personal data (*Wetten.nl*, 2025).

4.2 Ethical implications of Case Matcher

Latzer et al. (2014) point out 3 separate categories and 8 specific risks to implementing algorithmic selection tools in governance bodies. According to him, algorithms in public administration can (1) potentially challenge the development of humanity; (2) create risks to fundamental rights and freedom; and (3) affect how reality is perceived and interpreted (Latzer et al., 2014). The interview findings show that while not all risks are relevant to Case Matcher, some are worth paying a little more attention to in the context of asylum-decision making.

Category 1: Challenges to the development of humanity

Participants repeatedly bring up that they themselves will not blindly copy and paste answers if they are not in line with current policies. For example, one participant (P.4) explains that he always manually checks search results, noting that while colleagues can make mistakes, the

world is constantly changing. Migration policies are regularly updated, and employees need to respond accordingly. Another participant (P.5) also stresses that the nature of the work is policy-driven and constantly evolving. Decisions made in the past are not automatically applicable or valid in the present. He emphasizes that human judgment should remain central in asylum decision-making and that Case Matcher should only be consulted for inspiration purposes.

Despite these people stressing self-awareness and critical thinking, some participants highlight how they do see over-reliance on Case Matcher happening among their colleagues. According to them, the accessibility and convenience of Case Matcher make it an attractive option to resort to when stuck with an asylum case, particularly because it can save time in a high-pressure work environment. These employees often see colleagues turn to the algorithm rather quickly, as the threshold for over-dependence is relatively low. Participants noted that when users replicate the assessment of others without considering the complexity of their own case, over-reliance becomes a real risk. After all, each asylum case is unique and should be assessed as such.

P.3: It happens quite often that you go and talk with each other about a case. You ask: ‘How would you approach that? (...) And well, nine times out of ten, every colleague's opening line is: “Just use Case Matcher.” And then I indicate that what I just indicated to you as well, that I kind of refuse that. And they themselves are then like “But it's much easier, you can focus on other things,” and so on. (...) I would almost say, shamelessly they do often take over pieces and they are very open about it. (...) And so that does happen very often. And I also just try to point out to people that it is just much more useful and valuable to give it a try yourself.¹

However, not everyone shares this sentiment. A few participants argue that Case Matcher in fact stimulates critical thinking. These individuals emphasise that the algorithm functions purely as a support tool, and not a system that makes decisions for you. Instead, Case Matcher is useful as it guides the decision-making process, rather than replacing it. Given the complexity and uniqueness of each case, participants note that it is nearly impossible to find perfectly comparable examples, which limits the potential for blind copying of prior reasoning. Rather, decision-officers are prompted to actively engage with past decisions and compare nuances.

¹ P.3: Het komt natuurlijk heel vaak voor dat je even gaat sparren met elkaar over een zaak. Dat je een vraag hebt van, goh, hoe zul jij dat aanpakken? (...) En nou, negen van de tien keer is de openingszin van elke collega, ja, gebruik gewoon Case Matcher. En dan geef ik aan dat wat ik jou net ook heb aangegeven, dat ik dat een beetje weiger. En zij zelf zijn dan inderdaad van, ja, maar het is veel makkelijker joh. En dan kan je je op andere dingen focussen en zo. En ik ben van, ja, maar... nogmaals, je ontwikkelt jezelf niet als gewoon beslissende medewerker. ... Want ik zou bijna willen zeggen, schaamteloos nemen zij vaak wel stukken over en zijn ze daar ook weer heel erg open over. (...) En dat komt dus wel heel erg vaak voor. En ik probeer mensen er ook gewoon op te wijzen dat het gewoon veel zinvoller en waardevoller is om het zelf een keer te proberen.

This way, they ensure to reflect on how earlier reasoning might or might not apply to their current case.

P.6: The Case Matcher does not provide actual advice based on the case an employee is working on. Only similar examples appear. Personally, I would actually think this plays a big role in avoiding convenience. Because the search results rarely lead to a perfect answer, the employee still ends up having to figure out for himself how the information from another case applies to his own case.²

Thus, while over-reliance as defined by Latzer et al. (2023) might not be an inherently harmful risk of Case Matcher, participants do see colleagues using the algorithm to occasionally replace rather than support independent reasoning. Here, over-reliance appears to be not so much an inevitable ethical risk of the algorithm itself, but more dependent on how employees choose to interact with it. Even if most users intend to use Case Matcher responsibly, time pressure, peer behaviour or lack of clear training may still foster an organisational environment of the IND that allows for misuse.

Kasapoğlu et al. (2021) argue that although refugees acknowledge the potential usefulness of algorithms in the decision-making process, they also emphasize the importance of human oversight to guarantee that the unique personal experience of each refugee is considered. However, the differing interview responses indicate that there might not be sufficient human oversight or clear guidance to prevent Case Matcher from decisions becoming less about the individual and more about administrative convenience.

Then, are employees actually properly trained on how to use Case Matcher? The findings show that users have had various experiences. While some received proper training, others got brief explanations or read digital instructions, whereas a few participants have had no training at all.

P.2: No training sessions. (...) It was explained very briefly, but not really about how to deal with it. I notice that other colleagues use it much better than me, so indeed I have to figure that out myself with filters and search terms.³

² P.6: De Case Matcher geeft geen daadwerkelijk advies op basis van de zaak waar een medewerker aan werkt. Er verschijnen alleen soortgelijke voorbeelden. Persoonlijk zou ik eigenlijk denken dat dit een grote rol speelt in het vermijden van gemakzucht. Omdat de zoekresultaten zelden tot een perfect antwoord leiden, moet de medewerker uiteindelijk toch zelf uitzoeken hoe de informatie uit een andere zaak van toepassing is op de eigen zaak.

³ P.2: Geen trainingen. (...) We hebben het echt heel kort uitgelegd gekregen, maar niet heel erg over hoe je ermee om moet gaan. Ik merk dat een andere collega er veel beter mee omgaat dan ik, dus inderdaad moet ik dat zelf een beetje uitzoeken met filters en zoektermen.

P.3: Before we start work we are indeed taught; what is Case Matcher? How do you use it? How can you search within Case Matcher as effectively as possible? So we do get trained in it as it were.⁴

While some participants express interest in additional training, the majority feels that the knowledge and experience about the algorithm they have acquired over time is sufficient. This suggests that Case Matcher is generally perceived as user-friendly in its design. However, it does not necessarily imply that all users utilise the tool in the same way or use it to its full potential. The interview findings potentially indicate the absence of a standardised, centralised approach regarding how to use Case Matcher. As a result, this lack of consistency may reduce the overall efficiency of processing asylum cases, and might increase the risk of decision-patterns, over-reliance, and bias.

Category 2: risks to fundamental rights and freedoms

Whether Case Matcher poses risks to the rights and privacy of asylum-seekers puts participants in an awkward position, as their answers show tension between efficiency and privacy protection. Several participants point out that they were told not to access cases that were not assigned to them, yet Case Matcher is explicitly built on the principle of searching across all cases within the IND. Some interviewees feel uneasy with this, describing Case Matcher as “snooping” or “lurking” in other people’s files. While this is theoretically allowed, the discomfort expressed by participants suggests that what employees believe may not be fully in line with how people are expected to use Case Matcher, creating a grey zone where something is allowed, but not clearly ethically justified. Still, in general, respondents are certain Case Matcher will not cause leakage of personal data, and none give specific examples of consequences that might occur because of wider internal access.

P.7: What I would personally find important is that it is registered who is looking for what in Case Matcher. That way you prevent someone from unintentionally or without a valid reason looking up information that is not relevant to their work. For example: a colleague looking at your own old asylum case, when you yourself once had proceedings. Such a thing should not be possible, and registration of searches would be a good safeguard for that.⁵

⁴ P.3: Voordat we aan het werk beginnen krijgen we inderdaad geleerd; wat is Case Matcher? Hoe gebruik je het? Hoe kan je zo effectief mogelijk zoeken binnen Case Matcher? Dus we worden er wel in opgeleid als het ware.

⁵ P.7: Wat ik persoonlijk belangrijk zou vinden, is dat geregistreerd wordt wie wat zoekt in Case Matcher. Zo voorkom je dat iemand onbedoeld of zonder geldige reden informatie opzoekt die niet relevant is voor zijn of haar werkzaamheden. Bijvoorbeeld: een collega die

Case Matcher exists within a grey space, as users feel uncertain whether what they can access with Case Matcher is ethically appropriate. To solve this issue, the above participant's proposal could potentially reduce these thoughts and help them feel more at ease with other people's information, as well as increase transparent governance and user oversight.

Regarding user autonomy, most participants believe that Case Matcher either enhances or has no negative impact on the independence of their work. The algorithm enables decision-officers to perform tasks more independently, reducing the need to constantly consult with colleagues.

Category 3: influences on how reality is perceived and interpreted

Bias and misinterpretation are among potential ethical risks according to Latzer et al. (2014). Participants point out how these risks can be interpreted in the context of Case Matcher, stating that the algorithm can cause a sense of guidance towards a certain decision-outcome.

One respondent (P.1) noted that the algorithm can subtly guide users towards a certain approach by presenting decisions from previous cases that may appear applicable but do not fully align with specifics of the case at hand. This can give the decision-officer a false sense of justification, as they will replicate arguments without evaluating its relevance. As a result, different users might arrive at significantly different conclusions depending on whether they used Case Matcher or not. This illustrates how the algorithm, while helpful, also risks misinterpretation and ambiguity in the RSD process if users are not properly taught how and when to consult it.

P.9: Since the results are based on the outcomes of the employee's interpretations, I expect that the outcomes of the search results also depend on this. If the majority of employees interpret the policy to mean that most, say, Gülen cases lead to a rejection, I do expect that a search for Gülen cases will yield mainly rejections. Of course, in the absence of critical thinking, this could lead to bias. It would therefore be a bad idea to use Case Matcher to interpret policy, rather than doing it yourself.⁶

naar jouw eigen oude asielzaak kijkt, als jij zelf ooit een procedure hebt gehad. Zoiets zou niet moeten kunnen, en registratie van zoekacties zou daar een goede waarborg voor zijn.

⁶ P.9: Omdat de resultaten gebaseerd zijn op de uitkomsten van de interpretaties van de medewerkers, verwacht ik dat de uitkomsten van de zoekresultaten ook hier van afhangen. Als het merendeel van de medewerkers het beleid zo interpreteert dat de meeste, stel, Gülen-zaken tot een afwijzing leiden, verwacht ik wel dat een zoekopdracht naar Gülen-zaken voornamelijk afwijzingen zal opleveren. Bij een gebrek aan kritisch denken zou dit natuurlijk wel kunnen leiden tot vooroordelen. Het zou dan ook een slecht idee zijn om Case Matcher te gebruiken om beleid te interpreteren, in plaats van dit zelf te doen.

P.10: Case Matcher can also be very steering, so maybe you haven't thought of something yourself, and then all of a sudden you read something, and think 'Oh, ok that's possible.' But of course, that decision-officer also gave his own opinion on the case, so you don't know exactly whether this is right or wrong for the case you are working on.⁷

Participants mention no presence of direct discrimination or unfair treatment of asylum cases. However, above findings imply that rather than overt discrimination, the use of Case Matcher could lead to more subtle forms of bias and subjective influence due to lack of proper guidance and responsible use. This aligns with Sunstein's (2006) view that algorithmic output is least susceptible to bias when users have a strong understanding of the subject they are researching. Therefore, implementing clear, structured training and promoting work instructions on how to use Case Matcher could significantly reduce the risk of unintentional bias in decision-making. Additionally, Van Dijck (2010) suggests that algorithmic selection tools such as search engines become more intelligent over time simply because their users are better educated on the search topics. For Case Matcher, the findings show that the algorithm's neutrality highly depends on the knowledge and critical awareness of its users. Without this, Case Matcher risks amplifying existing subjective tendencies.

In sum, the algorithm itself presents a relatively low-risk profile. Yet, respondents note that there are several unwanted consequences of using Case Matcher in RSD. Divergent views on over-reliance point to challenges in maintaining human judgment and highlight a lack of consistent oversight and centralised guidance. Participants express ambivalence about the privacy implications of Case Matcher, reflecting a moral uncertainty about the ethical boundaries of accessing refugee data. Last, interpretive bias and misinterpretation present themselves as an indirect ethical risk of Case Matcher, as comparative assessment allows for steering towards a certain decision or policy interpretation, potentially undermining the individuality of each case.

4.3 Responsibility and accountability implications of Case Matcher

As previously suggested, the support of algorithms in asylum decision-making can potentially affect a user's perceived responsibility over the final decision. Moreover, it potentially obscures the lines of accountability between the individual decision-maker, the organisation, and the

⁷ P.6: Case Matcher kan ook heel sturend werken, dus misschien dat je zelf nog niet ergens aan hebt gedacht, en dan lees je in een keer iets, en denk je van OH, ok dat kan. Maar die hoornedewerker in die zaak heeft natuurlijk ook weer zijn eigen mening op die zaak gegeven, dus je weet niet precies of dit goed of fout is voor de zaak waar jij aan werkt.

system's developers when errors or flaws arise. However, when asked if using Case Matcher changes a decision-officer's sense of responsibility in assessing a case, the consensus was that it does not.

Interview responses show that, while Case Matcher is a valuable tool in decision-making, ultimate responsibility remains with the decision-officer. One participant (P.13) explained that they typically approach a case with a clear idea of the outcome (whether to grant asylum or not) but use Case Matcher primarily to help formulate their decision clearly and in alignment with others. Another decision-officer (P.8) emphasised that Case Matcher is fundamentally a passive tool, not an AI system that generates recommendations. To them, the algorithm's effectiveness, and any risks associated with it, ultimately depend on how employees engage with it.

P.6: I believe the responsibility to create a decent decision-product ultimately lies with the employee in question, and this consideration should always be taken into account when using Case Matcher. Every case is different, so applying information from other cases should always be taken with a grain of salt. As I mentioned earlier, this system is only good for getting an idea of something; structure, references, etcetera.⁸

Interestingly, a recurring theme among participants is the trust that participants have in their coworkers' integrity. Respondents expressed the assumption that government employees can be trusted to work responsibly. Even if the algorithm isn't perfect, they trust that the IND employee will make the right decision. This positions responsibility ultimately on the decision-maker, rather than on the algorithm.

P.10: At the same time, as I said, there are honest employees working for the government. I assume that you yourself take responsibility as a decision-maker not to do other things in that case that are not your task. And if you come across something, you bring it up.⁹

Here, decision-officers reflect a strong sense of individual responsibility, framing Case Matcher as a passive support tool. They allocate full responsibility for fair decision-making on

⁸ P.13: Ik geloof dat de verantwoordelijkheid om een fatsoenlijk beslisproduct te maken uiteindelijk bij de medewerker in kwestie ligt, en dat deze overweging altijd moet worden meegenomen bij het gebruiken van Case Matcher. Iedere zaak is anders, waardoor het toepassen van informatie uit andere zaken altijd met een korrel zout moet worden gedaan. Zoals ik eerder noemde, is dit systeem enkel goed om een idee te krijgen ergens van (structuur, verwijzingen, etc).

⁹ P.10 Tegelijkertijd, wat ik al zei, er werken integere medewerkers bij de overheid. Ik ga ervan uit dat je daar zelf ook verantwoordelijkheid neemt als beslismedewerker om geen andere dingen in die zaak te doen die niet jouw taak zijn. En als je iets tegenkomt, dat je dit aankaart.

themselves and colleagues. According to Heaton et al. (2023) and Adensamer et al. (2021), responsibility should be embedded in the system's design and implementation to ensure ethical use. Yet for Case Matcher, the algorithm's developers and the IND appear largely absent from this conversation. Instead, interviewees' remarks seemingly answer Adensamer et al.'s (2021) question of Organisational Accountability, stating that who is responsible for decisions made with the help of algorithms is mainly themselves.

Yet, when asked who should be held accountable for system flaws and errors, most shifted that burden toward the institution (the IND) or the algorithm's developers, providing an answer to Heaton et al.'s (2023) question of identifying who is answerable for an algorithm's performance and potential errors.

P.1: (The IND), absolutely. It's a tool that gives you a lot of insight into all kinds of different things. If the IND doesn't give us 1 line on how to apply the filters and how to get as close as possible to the results you want, then that's a flaw, because then it leads to all kinds of different ways of searching by employees. So, it would be good to have clear guidance on that.¹⁰

This remark reinforces Adensamer et al.'s notion that Organisational Responsibility, including liability and blame, rests with the IND deploying and maintaining the algorithm. Moreover, participants' expectation that the IND or system developers ensure that Case Matcher functions reliably also reflect Heaton et al.'s (2023) definition of responsibility. By placing trust in these institutions to maintain and design the algorithm ethically, users implicitly expect that its implementation considers fairness, transparency, and proper guidance in decision-making.

In sum, while IND employees view themselves mostly responsible for integer decisions made using Case Matcher, they simultaneously hold the IND and Case Matcher's developers accountable for the system's flaws. For them, the IND must ensure ethical system design and reliable functionality. These responses suggest that IND employees maintain a strong sense of personal responsibility and awareness of their role in the RSD process. Rather than relying exclusively on Case Matcher, they utilise it as a supporting tool, rather than a decision-maker. They claim ownership over the final decision, attributing only technical accountability, such as system performance and design integrity, to the organization and developers. This approach helps reduce the risk outlined by Kinchin (2021) that algorithmic tools in the RSD process

¹⁰ P.1: De IND, absoluut. Het is een tool die geeft jou heel veel inzage in allerlei verschillende zaken. Als er niet 1 lijn wordt meegegeven in hoe je de filters toepast en hoe je zo dicht mogelijk bij de resultaten moet komen die jij wenst, dan is dat wel een gebrek, want dan leidt dat tot allerlei verschillende manieren van zoeken bij medewerkers. Dus het zou goed zijn om eenduidig daarop te sturen.

might blur lines of responsibility and accountability, particularly when users depend on system outputs and data quality to justify their decisions.

4.4 Effectiveness and efficiency implications of Case Matcher

Efficiency

Interview responses show that most IND employees agree Case Matcher speeds up the decision-making process, suggesting the algorithm functions efficiently. This is in line with the views of Chan (2008) and Dekker et al. (2022), who argue that Algorithmic Governance can improve efficiency of government employees. These participants shared that it helps them find similar cases with summarised relevant information, saving time in formulating a decision and increasing independence of their work.

P.7: Without Case Matcher, I spend more time building and structuring a decision. With Case Matcher, I get a quicker picture of how cases are substantially handled. This helps with my own argumentation and ensures consistency within the team.¹¹

A few of these participants explicitly mentioned Case Matcher helps only when other options have been exhausted, such as asking colleagues, country specialists, and seniors. Essentially, it becomes a helpful last resort. These participants highlight the importance of human effort over computer tools.

P.10: I think it does make the work faster in my case. I usually go on Case Matcher if I really can't figure something out. After I have already tried everything, switched with seniors, et cetera. And if you can't figure it out together then Case Matcher is the option. It does save a lot of time, provided you find what you are looking for of course.¹²

These interview responses imply that for decision-officers, saving time and structured decision-making are central benefits to RSD that are being achieved through Case Matcher, thereby enforcing the notion that algorithmic tools are generally regarded to improve efficiency within public governance (Gritsenko & Wood, 2020).

¹¹ P.7: Zonder Case Matcher ben ik meer tijd kwijt aan het opbouwen en structureren van een besluit. Met Case Matcher krijg ik sneller een beeld van hoe zaken inhoudelijk worden aangepakt. Dat helpt bij mijn eigen onderbouwing en zorgt voor consistentie binnen het team.

¹² P.10: Ik denk dat het het werk wel sneller maakt in mijn geval. Ik ga meestal op Case Matcher als ik ergens echt niet uitkom. Nadat ik alles al heb geprobeerd, geschakeld heb met senioren, et cetera. En als je er niet samen uitkomt dan is Case Matcher de optie. Het scheelt wel heel veel tijd, mits je vindt waar je naar op zoek bent natuurlijk.

However, not all participants experienced consistent time savings, stating that usage does not necessarily lead to quicker completion of cases. For example, Case Matcher's impact on efficiency can vary depending on the complexity of a case. One user (P.4) also noted that while Case Matcher will occasionally reduce the time spent on a decision, it can also prolong the process due to the need to manually review whether the information in the example case remains relevant. Interestingly, participants who share this opinion mentioned that they use Case Matcher on a regular basis (for every case/a couple times a week), while those who perceive the algorithm as efficient use it only once a few weeks or months. This potentially suggests that efficiency gains are front-loaded. Those who use Case Matcher occasionally may experience a time-saving boost, because the algorithm helps them find similar cases quickly. On the other hand, frequent users may experience that, over time, the relative benefits shrink. For example, not every case might benefit equally from a match, or reading through suggestions takes up substantial time.

Effectiveness

While efficiency is measured in time, effectiveness relates to how the algorithm's characteristics affect use of the algorithm to complete a task (Chan, 2008). Thus, does Case Matcher contribute in a meaningful way to RSD? Relevant aspects include whether the algorithm provides accurate and relevant search results, whether it has an improved effect on the workload of decision-officers, and whether the reason that they use Case Matcher is in line with the purpose of the system.

Interview responses indicate that reasons for using Case Matcher generally conform with the system's purpose. This includes turning to Case Matcher when faced with complex or unfamiliar cases, particularly those involving rare elements or situations they had not encountered before, as well as using the algorithm to help structure decisions, and maintaining a sense of coherence within the IND.

P.1: I think the biggest advantages are that you make a decision in line with others. That, as IND, you speak with one mouth as much as possible. In Case Matcher, you find a lot of similar cases, and you could then assess (your own case) in a similar way.¹³

¹³ P.1: Ik denk dat de grootste voordelen zijn dat je in lijn met andere een beslissing neemt. Dat je als IND zoveel mogelijk met 1 mond spreekt. In Case Matcher vind je heel veel vergelijkbare zaken, en die zou je dan ook op een vergelijkbare situatie af kunnen doen.

All participants mentioned they use 1 to 4 keywords in their searches. The choice of keywords is crucial for finding relevant cases and knowing how to apply them determines the accuracy of search results. More keywords tend to reduce accuracy, while fewer give broader results. Participants largely agreed that the accuracy of search results is not necessarily dependent on the algorithm, but more so shaped by the user's input, knowledge and critical thinking. Case Matcher does not provide answers. Instead, the tool should be used as a basic search engine, where cases are found based on keyword matches. Respondents clarify that search results should be interpreted critically, especially in the context of evolving policies and legal frameworks. Accuracy, then, is dependent on the user's knowledge of the system, awareness of political contexts, and ability to select the right keywords.

The effect that Case Matcher has on the workload is divided into two separate viewpoints; some find it is related to time efficiency, where quicker work equals less pressure. However, most find that the algorithm has no effects on the pressure they experience as a decision-officer. These applicants repeatedly mention the complexity of each case, and the importance of constantly changing policies and legislation that decision-officers should stay aware of.

P.9: Hardly to none. The complexity of decision cases is not fully covered by Case Matcher. It helps with general structure, and here and there with references to IBs, work instructions, case law, but the assessment of a case ultimately comes down to too many other individual considerations.¹⁴

Thus, despite being generally perceived as efficient, Case Matcher has limited effect on the pressure that decision-officers experience within the IND.

Interestingly, 10 out of 14 participants comment on Case Matcher's outdated and confusing design, highlighting the need for improvement. Users find the system difficult to navigate, particularly when trying to apply the correct filters and keywords. The system also requires excessive clicking, as each search gets refreshed upon selecting a document. Participants emphasise that, while Case Matcher at its core is not necessarily a bad system, a modernised redesign could significantly enhance its effectiveness, ultimately improve case assessment and accelerate workflow.

¹⁴ P.9: Nauwelijks tot niet. De complexiteit van besliszaken wordt niet volledig gedekt door Case Matcher. Het helpt bij algemene structuur, en hier en daar ook met verwijzingen naar IB's, werkinstructies, jurisprudenties, maar de beoordeling van een zaak komt uiteindelijk neer op te veel andere individuele overwegingen.

P.5: They should make it clearer how to search properly. It's a very old, or old-looking, system. Also, when you want to click on another document in your search results, you have to search completely from the beginning again and enter your search terms. This is very annoying and doesn't necessarily make searching much faster either.¹⁵

Aside from design, participants expressed frustration with the quality and relevance of cases that are registered in the algorithm. For example, the algorithm includes many cases that are incomplete or abandoned, which often contain empty documents and add noise to the search results. Moreover, participants suggested that Case Matcher should prioritise cases assessed by more experienced decision-officers, as examples from employees in training may not offer reliable guidance. Participants noted how issues such as mentioned above undermine Case Matcher's usefulness and highlight the need for better filtering of the algorithm's database.

In sum, while Case Matcher supports consistency and inspiration in RSD, its effectiveness relies on critical thinking skills of the users, as well as the algorithm's design. Some participants find that Case Matcher reduces workload, but most argue that it plays only a supporting role due to the complexity and sensitivity of asylum decision-making. Outdated design, poor search functionality, and incomplete cases significantly hinder its potential. However, a modernized, simplified design, with smarter filters and relevance indicators could enhance Case Matcher's usefulness and effectiveness. Despite its shortcomings, participants do see potential in the efficiency that Case Matcher can bring to the RSD process. This directly relates to Dekker et al.'s (2022) view that Algorithmic Governance can improve the effectiveness of government employees.

5. Conclusion and discussion

This research paper questioned: *How does Algorithmic Governance influence the decision-making process of IND asylum decision-officers in the Netherlands?* This was explored through 14 interviews with IND asylum decision-officers who use the Case Matcher algorithm in their work of refugee status determination. The algorithm helps officers find comparable cases in order to make assessment more consistent and efficient. Academic literature presented a theoretical framework on researching the implications of an algorithm for the work of its users in migration governance. Based on the findings, several conclusions were drawn.

¹⁵ P.12: Duidelijker maken hoe je op de juiste manier moet zoeken. Het is een erg oud, of oud uitziend, systeem. Ook wanneer je in je zoekresultaten op een ander document wilt klikken, moet je volledig vanaf het begin opnieuw zoeken en je zoektermen invullen. Dat is erg vervelend en maakt het zoeken ook niet per se veel sneller.

SQ 1: How does Case Matcher's use align with ethical principles of (Algorithmic) governance (including fairness, bias and over-reliance)?

Expectation 1 proposed that Case Matcher will affect the interpretation of policies, reducing inconsistencies in RSD, but simultaneously institutionalising credibility thresholds. Interview responses support the notion of Case Matcher promoting consistency in decision-making, as this was among the primary reasons why participants mentioned using the algorithm in their work. For them, Case Matcher helps align their assessment with that of colleagues, ensuring consistency within RSD at the IND. Interestingly, the concept of 'credibility' was not explicitly mentioned by decision-officers, but instead implied through their focus on reviewing older cases to inform current decisions. All the while, respondents consistently highlighted the importance of self-awareness and approaching each case as unique. This suggests, contrary to Liodden (2020), that Case Matcher might not significantly alter credibility thresholds, because users remain aware of the unique nature of each case and the responsibility they have in the RSD process, as opposed to conforming blindly to precedent. The absence of direct references to credibility may moreover indicate that it is not perceived as a variable significantly affected by Case Matcher's use.

Expectation 2 stated that Case Matcher leads to over-reliance and loss of critical thinking due to influences and comparison to prior decisions. However, opposed to Latzer et al. (2014) and Liodden (2020), over-reliance was found to be not necessarily an inherent risk of Case Matcher itself, but more so to be dependent on how employees choose to interact with it and how the organisational environment of the IND frames its use. Participants who appeared more dependent on Case Matcher often lacked clear, centralised training and guidance on when and how to use the tool appropriately. This points to the need for improved training and oversight focused on the organisational environment.

SQ 2: How does Case Matcher affect the responsibility & accountability of IND employees regarding their role in the asylum process?

Expectation 3 argued that Case Matcher might blur the line for responsibility and accountability by shifting it onto colleagues that assessed the older cases found in Case Matcher. However, findings indicate that users generally maintain a strong sense of ownership over their decisions. While participants may assign accountability to the IND or the developers in cases of technical errors or flaws in the algorithm, they do not displace responsibility onto decision-officers of

prior cases. Instead, users reflect a clear awareness of their role in interpreting and applying information from previous decisions. Responsibility is seen as lying with the current decision-maker, not with the precedent or the colleagues who established it. This reflects a shift away from the potential risk of responsibility stated by Kinchin (2021).

SQ 3: How does Case Matcher affect the workload and efficiency of IND decision-officers?

Expectation 4 proposed that Case Matcher enhances efficiency and effectiveness, but risks making comparison the default mode of judgment. The data show that efficiency is in fact improved through Case Matcher, though primarily if used selectively. Frequent use, however, shows that Case Matcher does not speed up the process of RSD. Effectiveness, on the other hand, is reflected in the consistency it promotes and the inspiration it provides for decision-making. However, Case Matcher does not significantly reduce workload and is occasionally confusing to use due to its outdated design. Therefore, contrary to the belief of Dekker et al. (2022), the algorithm does not make comparison the default mode of judgment but could nevertheless make RSD more effective and efficient if met with improvements in design.

Implications

Evidently, migration scholars critique the idea of case comparison in asylum decision-making for enabling the institutionalisation of prior patterns and outcomes. To them, comparison undermines the complexity and nuance required for credibility assessment, as each asylum case is unique. Moreover, scholars suggest that exposure to similar cases can make decision-makers stricter, reducing their willingness to trust asylum narratives that resemble others (Liudden, 2020, Pärnamets et al., 2019). In the Netherlands, Case Matcher embeds comparison into the RSD process by providing IND decision-officers with quick access to prior cases. Consequently, Case Matcher brings ideals of Algorithmic Governance (such as coordination, technological efficiency, and data-driven decision-making) into asylum procedures (Katzenbach & Ulbricht, 2019; Kasapoğlu et al., 2021). In the context of Case Matcher, Algorithmic Governance intends to promote efficiency and consistency but also encourages comparison.

While Case Matcher certainly promotes efficiency to some extent, the findings challenge deterministic notions of Algorithmic Governance that assume algorithmic tools like Case Matcher unilaterally enforce consistency or reduce discretion, as stated by Katzenbach and Ulbricht (2019) and O'Reilly (2013). However, the findings also do not fully fit within the

category of scholars who find that Algorithmic Governance is inherently depoliticising (Morozov, 2014, Blanke & Aradau, 2022), as decision-makers remain aware of the nuances and socio-political sensitivity of their work.

Instead, this study presents a more nuanced view of how comparison in RSD through algorithms can work in practice, as the findings show that over-reliance and credibility discretion is more a consequence of how the organisational environment or work floor encourages and views the use of Case Matcher, rather than of the algorithm itself. Therefore, this research adds to a more socio-technical understanding of Algorithmic Governance, where the implications of Algorithmic Governance on RSD depend on how algorithmic tools are embedded in organizational environments and how decision-makers choose to engage with them. As shown in my findings, comparison in the RSD process through algorithms is more differentiated than assumed by critics, and if used selectively, can be a beneficial tool in creating efficiency and consistency within the process of asylum decision-making.

This research shows that Algorithmic Governance does not have to erode human judgement and critical thinking in migration governance but can be a way of governing where human agency, institutional culture and tool design intersect. These findings help to move the conversation of Algorithmic Governance in the context of RSD beyond technological determinism and credibility discretion towards one that is more closely related to organisational behaviour and the collaboration of humans and algorithms. Future research should decenter algorithms as the focus point of analysis, and instead conduct deeper research into how the use of algorithms such as Case Matcher depends on how the algorithm is interpreted and institutionalised within migration government bodies like the IND.

As technological innovation continues to shape public administration, the significance of Algorithmic Governance is likely to grow in refugee status determination as well. It is essential for policymakers to critically engage with the insights and flaws of Case Matcher highlighted in this study to ensure that future algorithmic selection tools are integrated in a fair and ethical manner, protecting credibility norms and minimising risks of over-reliance in the process of asylum decision-making.

Limitations

Regarding limitations, data was merely collected from a single location. And, while this was expected not to matter, the results show that the organisational environment is crucial to how decision-officers view and use Case Matcher. Conducting interviews at multiple locations

could potentially offer insights into differences between organisational environments and its impact on algorithm use in RSD. Thus, future research on algorithms such as Case Matcher should take this into consideration when collecting user data.

Second, while Case Matcher exemplifies algorithm implementation in the RSD process, it might not be implementable in other fields of the refugee process, such as border control or refoulement. As a result, Case Matcher represents only a minor step towards integrating Algorithmic Governance into the broader field of migration governance. This research contributes by presenting a potential area of collaboration, but its effects are small. Admittedly, there remains a need for further research into how algorithmic tools can be responsibly and effectively applied across different stages of the refugee journey.

Last, I initially aimed to combine interview data with qualitative document analysis of official government materials related to Case Matcher's overall implementation and user results. This methodological approach was aimed at providing a more comprehensive understanding of how the algorithm functions in practice and how it is perceived and utilised by its users. However, while I requested these documents in advance, I did not receive them at all. This limitation constrained my ability to assess how often and for what end Case Matcher is used in practice on a bigger scale and should be something future researchers take into account. Nevertheless, the interview findings provide a sufficient framework for the general experience of decision-officers with the algorithm.

Policy recommendations

Case Matcher has potential to function as an example for other countries who are facing inconsistencies and ineffectiveness in the RSD process. However, the findings of this research also imply that it is no perfect system, and there are several improvements pointed out by participants that are needed to increase its efficiency and applicability in governance structures. Based on the findings from this research, I propose the following recommendations for policy makers at the IND specifically to improve the Case Matcher algorithm. The recommendations are moreover targeted to policy makers in EU migration bodies who desire the implementation of comparison algorithms such as Case Matcher in the RSD process.

First, I propose to develop and implement streamlined and obligated training sessions on Case Matcher, or algorithms such as Case Matcher, explaining the mechanisms of the algorithm to all decision-officers at the IND. Favourably, this training is to be repeated every couple of months or so. This will ensure that every employee develops a similar understanding

of how, when, and why to use the comparison algorithm. Important here is that the training emphasises the importance of selective use, consulting only when faced with unusual or complex cases, in order to refrain from enhancing the risk of over-reliance. The training must additionally focus on how employees and the organisation view the algorithm. Participants mention how the IND fosters the use of Case Matcher before asking colleagues or seniors, which causes risk of over-reliance and potential bias and misinterpretation in decision-making. Going beyond technicality, the training should include a critical reflection on how to value the tool within the context of asylum decision-making.

Second, Dutch policy makers should call for improvements in design of the Case Matcher interface. Respondents pointed out how outdated design such as excessive clicking and difficulty in navigating the system, as well as empty cases in the database, burdened the effectiveness of case assessment. Ordering for a modernised redesign and clean-up of its database could improve efficiency greatly. However, improved design could also risk users consulting Case Matcher more frequently, thereby affecting the risk of over-reliance and misinterpretation. Policy makers should take this into account when redesigning the algorithm. This could potentially be done through training sessions (as pointed out in the recommendation above), or by limiting use of Case Matcher to a few times a day.

Last, the implementation of comparison algorithms such as Case Matcher should focus more on ethical asylum decision-making than is currently the case. As participants noted, some feel ambiguity about the morality of accessing older cases. Especially since this was not allowed prior to the introduction of Case Matcher. Policy makers concerned with the algorithm should order for ethical redesign to reduce this moral ambiguity. This potentially includes a feature where you can see who accessed a case in the past, or an option for users to flag cases where the suggestion seems problematic or irrelevant. This will help support ethical oversight and keep the priority on human judgement.

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Appendices

1. Disclaimer on the use of GenAI

As English is not my native language, I occasionally felt unsure regarding proper phrasing or spelling of my text. Therefore, I have used AI programs including *Grammarly* and *Scribbr* to refine my writing and to fix spelling mistakes. Moreover, I consulted *ChatGPT* for general ideas and examples to brainstorm ideas. Nevertheless, I assure the reader that this project is fully my own work, that I remained critical of the generated ideas, and have completely worked independently and based on my own words.

2. Interview questions

2.1 Interview questions in English

— = especially relevant

Introductory questions

1. Please tell me a bit about yourself; How long have you been working for the IND and what does your job entail?
2. Are you aware of Case Matcher?
3. Could you tell me a bit about the mechanisms of the algorithm to clarify your understanding of it?
 - a. What are the primary functions of the Case Matcher within the IND process?
4. How often do you interact with Case Matcher in your work?
 - a. Daily? For every case? How much for each case? Since when?
5. Case Matcher is optional. Why do you personally utilise Case Matcher in the decision-making process when there is also the option to ‘not’ use it?

Benefits/disadvantages

1. What do you think are the biggest benefits of Case Matcher?
2. Are there specific features of the Case Matcher that you find especially useful?
3. If you were the designer of the algorithm, which aspects would you change?
4. In what ways could the Case Matcher be improved to better support your work?
5. Have you encountered any challenges or limitations while using the system?
6. What are the biggest differences in your case assessment when using Case Matcher vs. when not using Case Matcher?

Keywords

1. How many keywords do you usually enter when searching for similar cases?
2. What determines which keywords you pick?
3. What do those keywords usually relate to in terms of the case you are assessing?
 - a. For example, do your keywords focus on characteristics of the identity of the asylum seeker, or maybe on aspects of the *asielrelaas* (a refugee’s reasons for application)?
4. Do you find that the use of keywords changes the outcomes/search result quality? If so, in what ways?
 - a. Does the amount of keywords help, and do certain keywords get more specific results?

I am especially curious about Case Matcher’s implications for your work as an asylum officer. The following questions will focus on ethical considerations, responsibility & accountability, and efficiency & effectiveness of the algorithm.

Effectiveness: *does Case Matcher actually help achieve a task*

1. How accurately do you find that Case Matcher identifies and matches cases?
2. Have you noticed any patterns in incorrect or missed matches? If so, what are they usually?
3. Do you feel more informed and confident about your assessment if you used Case Matcher?
4. For what types of cases does the system perform best?
5. For what types of cases does it struggle?

6. How do you feel about the system's matching results? Do you trust them, or do you often find yourself needing to manually verify them?
7. If you could change one aspect of Case Matcher to improve effectiveness, what would it be?

Efficiency: *does Case Matcher help finish the task faster*

1. How does Case Matcher impact the time required for case assessment compared to manual methods?
2. How does Case Matcher impact your workload? Do you find that it helps reduce unnecessary tasks?
 - a. If so, how?
 - b. If not, why?
3. Have you experienced technical issues while using the system?
 - a. If so, how often?
4. If you could change one aspect of Case Matcher to improve its efficiency, what would it be?

Responsibility & accountability

1. How does Case Matcher impact the responsibility/accountability of IND officers handling cases?
2. Who do you think is ultimately responsible for ensuring the accuracy and fairness of the Case Matcher system?
3. If an incorrect match leads to a potentially negative outcome for an applicant, who is accountable—the system, the user, or the organization?
4. How do you personally ensure that the Case Matcher is used responsibly in your work?
5. How does using Case Matcher affect your sense of responsibility when handling a case compared to not using it?
 - a. For example, do you feel that part of the responsibility should be on the algorithm/the designers of the algorithm rather than on you?
6. How do you perceive your responsibility in ensuring the accuracy and reliability of the matches suggested by the system?
 - a. Do you feel responsible to ensure that the matches suggested by the system are accurate and reliable?
7. If it turns out that the matched cases are incorrect/do not adequately connect to your own case, who do you feel should be held accountable for the consequences?
8. Are there any review or oversight processes in place to ensure the accuracy of matches?
9. In what ways, if any, do you think Case Matcher could lead to misinterpretation or misuse of the results?
 - a. Are there specific measures in place to prevent misuse or misinterpretation of the system's results?
10. Whose word do you usually assume as truth, Case Matcher or your seniors?

Ethical implications

1. What do you personally think are the consequences of using Case Matcher in the decision-making process?
2. How do you interpret the suggestions that using an algorithm can cause over-reliance on these types of systems and reduce critical thinking?
3. How do you interpret the suggestions that using an algorithm can lead to bias regarding the interpretation of policy. Do you think the Case Matcher system is completely neutral, or do you suspect any biases in its matching process?

- a. If so, have you observed any cases where the system's recommendations might have led to discrimination or bias towards a certain interpretation of policies.
4. Some might argue that using an algorithm can violate the privacy and data protection of asylum seekers. What is your opinion on this regarding Case Matcher?
5. Do you find there are any social or ethical risks that I have not mentioned, but could still result from using Case Matcher in the decision-making process?
6. Do you personally find that there are any social risks associated with Case Matcher, such as unintended negative consequences for applicants?
7. Do you think applicants/asylum seekers should have any say in whether Case Matcher is used in their case? Or should they be informed?
 - a. Please explain your answer.
8. How do you document or justify decisions made based on Case Matcher's recommendations?
9. In situations where the system's results seem questionable, how often do you personally override its recommendations?
 - a. What determines whether you do so?
10. Do you find that the use of Case Matcher limits or enhances the decision-making autonomy of IND officers?

Training

1. Do you feel you fully understand how the Case Matcher system works, or are there aspects that remain unclear?
2. What kind of training have you received on using the Case Matcher system?
3. Do you feel the training provided is sufficient to understand both its capabilities and limitations?
4. How could training be improved to ensure more effective and responsible use of the system?

Concluding remarks

1. Are there any additional comments you would like to make?
2. Do you have any questions before I wrap up?

2.2 Interview questions in Dutch

- = vooral relevant

Ik ben Suze Warmerdam, student Msc. PA: Governance of Migration and Diversity. Mijn afstudeeronderzoek gaat over de mechanismen van Case Matcher binnen de IND en de implicaties daarvan voor het werk van beslismedewerkers van de IND.

De deelnemer kan diepgaande vragen verwachten over zijn persoonlijke ervaring en mening over het werken met Case Matcher. Alleen de antwoorden van de deelnemers worden verzameld. Het interview is volledig anoniem en wordt enkel getranscribeerd voor onderzoeksdoeleinden.

Uw deelname is vrijwillig en u kunt op elk moment uw toestemming intrekken en vragen om de gegevens te wissen voordat de dataset wordt geanonimiseerd of het manuscript wordt ingediend voor publicatie.

Introducerende vragen

- Vertel eens iets over jezelf; Hoe lang werk je al bij de IND en wat houdt je functie in?
- Kunt u Case Matcher kort omschrijven?
 - Wat zijn de belangrijkste functies van de Case Matcher binnen het IND-proces?
- Hoe vaak werkt u met Case Matcher in uw werk?
 - Dagelijks? Voor elke zaak? Hoeveel voor elke case? Sinds wanneer?
- Case Matcher is optioneel. Waarom maak je persoonlijk gebruik van Case Matcher in het besluitvormingsproces als er ook de optie is om het 'niet' te gebruiken?

Voordelen/nadelen

- Wat zijn volgens jou de grootste voordelen van Case Matcher?
- Zijn er specifieke kenmerken van Case Matcher die je bijzonder nuttig vindt?
- Als jij de ontwerper van het algoritme was, welke aspecten zou je dan veranderen?
- Op welke manieren zou de Case Matcher verbeterd kunnen worden om uw werk beter te ondersteunen?
- Ben je uitdagingen of beperkingen tegengekomen tijdens het gebruik van het systeem?
- Wat zijn de grootste verschillen in je beoordeling van zaken wanneer je Case Matcher gebruikt vs. wanneer je Case Matcher niet gebruikt?

Trefwoorden

- Hoeveel trefwoorden voert u meestal in bij het zoeken naar vergelijkbare zaken?
- Wat bepaalt welke trefwoorden u kiest?
- Waar hebben die trefwoorden meestal betrekking op in termen van de zaak die u beoordeelt?
 - Richten uw trefwoorden zich bijvoorbeeld op kenmerken van de identiteit van de asielzoeker, of misschien op aspecten van het asielrelaas (de redenen van een vluchteling om een aanvraag in te dienen)?
- Vindt u dat het gebruik van trefwoorden de uitkomsten/zoekresultaten verandert? Zo ja, op welke manieren?
 - Helpt het aantal trefwoorden en leveren bepaalde trefwoorden specifieke resultaten op?

Ik ben vooral benieuwd naar de implicaties van Case Matcher voor je werk als beslismedewerker. De volgende vragen gaan over ethische overwegingen, verantwoordelijkheid & aansprakelijkheid, en efficiëntie & effectiviteit van het algoritme.

Effectiviteit: helpt Case Matcher daadwerkelijk een taak te volbrengen

- Hoe nauwkeurig vindt u dat Case Matcher cases identificeert en matcht?
- Heb je patronen opgemerkt in onjuiste of gemiste matches? Zo ja, welke zijn dat meestal?
- Voelt u zich beter geïnformeerd en zekerder over uw beoordeling als u Case Matcher hebt gebruikt?
- Voor welke soorten zaken presteert het systeem het best?
- Bij welke soorten zaken levert het problemen op?
- Wat vind je van de matchingsresultaten van het systeem? Vertrouwt u ze of moet u ze vaak handmatig verifiëren?
- Als u één aspect van Case Matcher zou kunnen veranderen om de effectiviteit te verbeteren, wat zou dat dan zijn?

Efficiëntie: helpt Case Matcher om de taak sneller af te ronden

- Hoe beïnvloedt Case Matcher de tijd die nodig is voor het beoordelen van zaken in vergelijking met handmatige methoden?
- Hoe beïnvloedt Case Matcher uw werklast? Vindt u dat het helpt om onnodige taken te verminderen?
 - Zo ja, hoe?
 - Zo nee, waarom niet?
- Hebt u technische problemen ondervonden bij het gebruik van het systeem?
 - Zo ja, hoe vaak?
- Als je één aspect van Case Matcher zou kunnen veranderen om uw zaken sneller af te kunnen handelen, wat zou dat dan zijn?

Verantwoordelijkheid en aansprakelijkheid

- Welke invloed heeft Case Matcher op de verantwoordelijkheid/aansprakelijkheid van IND-ambtenaren die zaken behandelen?
- Verandert uw gevoel van verantwoordelijkheid bij het behandelen van een zaak wanneer u Case Matcher gebruikt (in vergelijking met wanneer dit niet wordt gebruikt)?
- Wie is er volgens u uiteindelijk verantwoordelijk voor het waarborgen van de nauwkeurigheid en eerlijkheid van het Case Matcher-systeem?
- Als een onjuiste match leidt tot een mogelijk negatieve uitkomst voor een aanvrager, wie is dan verantwoordelijk - het systeem, de gebruiker of de organisatie?
- Hoe zorg je er persoonlijk voor dat Case Matcher verantwoordelijk wordt gebruikt in je werk?
- Hoe beïnvloedt het gebruik van Case Matcher uw gevoel van verantwoordelijkheid bij het behandelen van een zaak in vergelijking met het niet gebruiken ervan?
 - Vindt u bijvoorbeeld dat een deel van de verantwoordelijkheid bij het algoritme/de ontwerpers van het algoritme moet liggen in plaats van bij u?
- Hoe ziet u uw verantwoordelijkheid in het waarborgen van de nauwkeurigheid en betrouwbaarheid van de overeenkomsten die door het systeem worden voorgesteld?
- Voelt u zich verantwoordelijk om ervoor te zorgen dat de overeenkomsten die door het systeem worden voorgesteld nauwkeurig en betrouwbaar zijn?
- Als blijkt dat de gemaakte gevallen onjuist zijn/ niet goed aansluiten op uw eigen zaak, wie moet er volgens u dan verantwoordelijk worden gehouden voor de gevolgen?
- Zijn er controle- of toezichtsprocedures om de nauwkeurigheid van de matches te waarborgen?
- Op welke manieren zou Case Matcher volgens u kunnen leiden tot verkeerde interpretatie of misbruik van de resultaten?
- Zijn er specifieke maatregelen om misbruik of verkeerde interpretatie van de resultaten van het systeem te voorkomen?
- Wiens woord neem je meestal als waarheid aan; Case Matcher of je leidinggevend?

Ethische implicaties

- Vindt u persoonlijk dat er maatschappelijke risico's verbonden zijn aan Case Matcher, zoals onbedoelde negatieve gevolgen voor aanvragers?
- Wat zijn volgens jou persoonlijk de gevolgen van het gebruik van Case Matcher in het besluitvormingsproces?
- Hoe interpreteer je de suggesties dat het gebruik van een algoritme kan leiden tot overafhankelijkheid van dit soort systemen en het verminderen van kritisch denken?

- Hoe interpreteer je de suggesties dat het gebruik van een algoritme kan leiden tot vooringenomenheid bij de interpretatie van beleid? Denk je dat het Case Matcher-systeem volledig neutraal is, of vermoed je vooroordelen in het matchingsproces?
 - Zo ja, heb je gevallen waargenomen waarin de aanbevelingen van het systeem zouden kunnen hebben geleid tot discriminatie of vooringenomenheid ten aanzien van een bepaalde interpretatie van het beleid.
- Sommigen zouden kunnen aanvoeren dat het gebruik van een algoritme de privacy en gegevensbescherming van asielzoekers kan schenden. Wat is jouw mening hierover met betrekking tot Case Matcher?
- Vind je dat er sociale of ethische risico's zijn die ik niet heb genoemd, maar die toch zouden kunnen voortvloeien uit het gebruik van Case Matcher in het besluitvormingsproces?
- Vindt u dat aanvragers/asielzoekers inspraak zouden moeten hebben in het gebruik van Case Matcher in hun zaak? Of moeten zij worden geïnformeerd?
 - Licht uw antwoord toe.
- Hoe rechtvaardigt u beslissingen die zijn genomen op basis van de aanbevelingen van Case Matcher?
- In situaties waarin de resultaten van het systeem twijfelachtig lijken, hoe vaak negeert u dan persoonlijk de aanbevelingen?
 - Wat bepaalt of u dat doet?
- Vindt u dat het gebruik van Case Matcher de beslissingsautonomie van IND-medewerkers beperkt of vergroot?

Training

- Heeft u het gevoel dat u volledig begrijpt hoe het Case Matcher systeem werkt, of zijn er aspecten die onduidelijk blijven?
- Wat voor training heeft u gekregen over het gebruik van het Case Matcher-systeem?
- Vindt u de training voldoende om zowel de mogelijkheden als de beperkingen van het systeem te begrijpen?
- Hoe kan de opleiding worden verbeterd om een doeltreffender en verantwoordelijker gebruik van het systeem te garanderen?

Afsluitende opmerkingen

- Zijn er nog aanvullende opmerkingen die u wilt maken?
- Heeft u nog vragen voordat ik afsluit?

3. Consent form & interview checklist

Information sheet

Introduction

I am Suze Warmerdam, a student Msc. PA: Governance of Migration and Diversity. My thesis research is concerned with the mechanisms of Case Matcher within the IND and its implications for the work of IND asylum decision-officers.

For more information, you can contact me through the following details:

736183sw@eur.nl or suze.warmerdam88@gmail.com
+31 6 36372592

Data collection

The participant can expect in depth questions concerning their personal experience and opinion of working with Case Matcher. Only the participant's answers will be collected. The interview will be recorded and transcribed for analysis purposes.

Potential inconvenience & risks

There are no physical, legal or economic risks associated with your participation in this study. It is not mandatory to answer all questions. Your participation is voluntary and you can stop at any time.

Reimbursement

There is no monetary benefit for contributing to this research.

Confidentiality & data protection

The collected data will be used for an aggregated analysis and no confidential information or personal data will be included in the research outcome. The data is stored in a secure location and will be kept for a minimum of 7 up to 10 years (see: Education and Examination Regulation of ESSB article 5.8.).

Data sharing

I will share the data with Dr. Asya Pisarevskaya of Erasmus University Rotterdam for the purpose of researching and writing my master thesis mandatory for completion of my studies at Erasmus School of Social and Behavioural Sciences, Erasmus University.

Voluntary participation & individual rights

Your participation is voluntary and you can stop at any time. When you participate in the research, you have the right to request more information about the data collection, analysis or withdraw the consent and ask for data erasure before the dataset is anonymized or manuscript submitted for publishing. You can exercise your rights by contacting Suze Warmerdam.

If you have any complaints regarding the processing of personal data in this research, please contact Suze Warmerdam.

Consent form *The Implications of the Case Matcher Algorithm*

Upon signing of this consent form, I confirm that:

- I've been informed about the purpose of the research, data collection and storage as explained in the information sheet;
- I've read the information sheet, or it has been read to me;
- I've had an opportunity to ask questions about the study; the questions have been answered sufficiently;
- I voluntarily agree to participate in this research;
- I understand that the information will be treated confidentially;
- I understand that I can stop participation any time or refuse to answer any questions without any consequences;
- I understand that I can withdraw my consent before the dataset is submitted for approval.

Additionally, I give permission to:

	Yes	No
I give permission to audio record the interview		
I give permission to use quotes from my interview		

Name of research participant: _____

Date: _____

Signature: _____

Informatieblad

Introductie

Ik ben Suze Warmerdam, student Msc. PA: Governance of Migration and Diversity. Mijn afstudeeronderzoek gaat over de mechanismen van Case Matcher binnen de IND en de implicaties daarvan voor het werk van beslismedewerkers van de IND.

Voor meer informatie kunt u contact met mij opnemen via de volgende gegevens:

736183sw@eur.nl of suze.warmerdam88@gmail.com
+31 6 36372592

Data collectie

De deelnemer kan diepgaande vragen verwachten over zijn persoonlijke ervaring en mening over het werken met Case Matcher. Alleen de antwoorden van de deelnemers worden verzameld. Het interview wordt opgenomen en getranscribeerd voor onderzoeksdoeleinden.

Mogelijk ongemak & risico's

Er zijn geen fysieke, juridische of economische risico's verbonden aan uw deelname aan dit onderzoek. Het is niet verplicht om alle vragen te beantwoorden. Uw deelname is vrijwillig en u kunt op elk moment stoppen.

Vergoeding

Er is geen vergoeding verbonden aan het meewerken aan dit onderzoek.

Vertrouwelijkheid en gegevensbescherming

De verzamelde gegevens worden gebruikt voor een geaggregeerde analyse en er wordt geen vertrouwelijke informatie of persoonlijke gegevens opgenomen in de onderzoeksresultaten. De gegevens worden opgeslagen op een beveiligde locatie en worden minimaal 7 en maximaal 10 jaar bewaard (zie: Education and Examination Regulation of ESSB article 5.8.).

Delen van gegevens

Ik zal de gegevens delen met Dr. Asya Pisarevskaya van de Erasmus Universiteit Rotterdam ten behoeve van het onderzoek en het schrijven van mijn masterscriptie die verplicht is voor de afronding van mijn studie aan de Erasmus School of Social and Behavioural Sciences, Erasmus Universiteit.

Vrijwillige deelname & individuele rechten

Uw deelname is vrijwillig en u kunt op elk moment stoppen. Wanneer u deelneemt aan het onderzoek, hebt u het recht om meer informatie te vragen over de gegevensverzameling en -analyse of om uw toestemming in te trekken en te vragen om de gegevens te wissen voordat de dataset wordt geanonimiseerd of het manuscript wordt ingediend voor publicatie. U kunt uw rechten uitoefenen door contact op te nemen met Suze Warmerdam.

Als u klachten hebt over de verwerking van persoonsgegevens in dit onderzoek, neem dan contact op met Suze Warmerdam.

Toestemmingsformulier *The Implications of the Case Matcher Algorithm*

Met het ondertekenen van dit toestemmingsformulier bevestig ik dat:

- Ik ben geïnformeerd over het doel van het onderzoek, gegevensverzameling en opslag zoals uitgelegd in het informatieblad;
- Ik het informatieblad heb gelezen of dat het mij is voorgelezen;
- ik de gelegenheid heb gehad om vragen te stellen over het onderzoek; de vragen voldoende zijn beantwoord;
- Ik ga vrijwillig akkoord met deelname aan dit onderzoek;
- Ik begrijp dat de informatie vertrouwelijk zal worden behandeld;
- Ik begrijp dat ik op elk moment kan stoppen met deelname of kan weigeren vragen te beantwoorden zonder consequenties;
- Ik begrijp dat ik mijn toestemming kan intrekken voordat de dataset ter goedkeuring wordt ingediend.

Daarnaast geef ik toestemming om:

	Ja	Nee
Ik geef toestemming om het interview op te nemen		
Ik geef toestemming om citaten uit mijn interview te gebruiken		

Naam van de onderzoeksdeelnemer: _____

Datum: _____

Handtekening: _____

4. Codebook

After open-coding (yellow box), codes were organised through axial coding into categories and subcategories (green boxes)			
Categories	Subcategories	Codes	Examples from transcripts
Code groups connected to over-arching themes	Usage	Frequency of use	"I use Case Matcher maybe once every 2 months."
		Reason of use	"When I come across a more complex case with rare elements, or simply something I have not done before, I will use the Case Matcher to get an idea of a format I can stick to."
		Training	"I never had a training on Case Matcher."
		Level of understanding	"I do have a basic level of understanding to use the system for comparison."
		Keywords: technique of use	"I would say 4 keywords maximum, but that doesn't mean I achieve the right results with those 4 words."
	Advantages	Confusing Faster decision-making	"And furthermore, it's fast, you can filter easily with all kinds of keywords. So it also saves time if you're struggling with something and you're working on it all day, you can open Case Matcher and it will take you a lot shorter."
		Increased confidence	"I must say that I do like it when I find a good case, because it makes me a little more confident about the articles of law I use and how I make a decision."
		Supporting tool	"The biggest advantage for me is finding structure in drafting a minute, intention, etc."
		I body 1 voice	"The biggest advantage is that you can make a decision that is in line with others"
		Autonomy	"Case Matcher absolutely broadens autonomy of decision-makers. It's a tool that you can use as support for your other tasks."
	Disadvantages	Confusing design	"There are many different tabs where search terms or characteristics of a case can be entered. That was quite new to me. Whenever I wanted to look something up, I was uncertain whether I had clicked or entered the right thing."
		Guiding decisions	"it can also be very guiding, so maybe you haven't thought of something yourself, and then all of a sudden you read something, and think OH, ok that's possible."
		Over-reliance	"Nine times out of ten, a colleague's opening line is, just use case matcher. And then I point out that what I just pointed out to you as well, that I kind of refuse that."
	Recurring themes	Self-awareness	"I always pay attention to what I copy and take as my inspiration. Policy is constantly changing, so that's very important to be aware of."
		Policy changes	"I always pay attention to what I copy and take as my inspiration. Policy is constantly changing, so that's very important to be aware of."
		Potential improvements	"The search on Case Matcher would perhaps be more effective if it could search for cases that have been handled by experienced staff."
		Critical thinking skills	"People are going to copy and paste. Yes, you don't gain knowledge from that. People who copy it, who paste it, they actually forget all the time."
		Over-reliance	"But basically my first approach is to just approach a case myself. And if I really can't figure it out then I use Case Matchere."
Code groups connected to theoretical framework	Ethical considerations	Misinterpretation	"Using Case Matcher without being critical and without including the current context can lead to misinterpretations or even wrong decisions."
		Over-reliance	<i>Mentioned before.</i>
		Bias	"I think the system is fundamentally neutral. After all, it is a collection of previous cases and documents, not a directive or advice."
		Asylum-seekers' say	"I personally think asylum seekers have no say in (the use of Case Matcher). It is part of this process and they agree to it as soon as they apply for asylum."
		Privacy matters & concerns	"Violate I don't think because we all took an oath."
		Critical thinking skills	<i>Mentioned before.</i>
		Trust in integrity colleagues	"There are employees of integrity working in the government. I assume you take responsibility for that yourself."
	Efficiency	Faster decision-making	"(Decision-making) goes twenty million times faster."
		Neutral time-effects	"I think, to be honest, it's not necessarily that I'll finish earlier as a result."
	Effectiveness	Accuracy of search-results: high	"I usually find what I need in the first few hits."
		Accuracy of search-results: questionable	"60 or 70 percent of the time, Case Matcher puts the right things in front of you, but it definitely takes some searching."
		Workload: decrease	"Less time pressure is less stress. So that naturally results in better efficacy in the end."
		Workload: no effect	"Regardless of Case Matcher, there is just as much pressure within the IND."
		Reason of use relates to purpose	"It helps me structure my decisions. I see how colleagues have assessed similar situations, what formulations they use, and how they apply policies or general information."
	Responsibility	Responsibility: self	"I believe the responsibility to create a decent decision product ultimately lies with the employee in question."
		Responsibility: IND	"I can do something in it, but the system itself lies with the IND, i cannot change anything in it further."
		Responsibility: system developers	"The creators, of course. I mean, it's their product, it's their baby. Yes, what can I, as an employee do about an error in the algorithm? As a user, I can assume it all works well."
		Asylum applicant responsibility	"I personally think asylum seekers have no say in (the use of Case Matcher). It is part of this process and they agree to it as soon as they apply for asylum."
	Accountability	Accountability: self	"I therefore take that accountability that I used that information from Case Matcher. YOU are responsible as a decision-maker."
		Accountability: IND	"Then it is ultimately the IND's responsibility to ensure that this system promotes accuracy and fairness."
		Autonomy	"It increases autonomy in the sense that you are better informed. But you have to be strong in your judgment and dare to follow your own, even if Case Matcher suggests otherwise."

5. Table of interviewees

Individual	Employment status
P.1	Employed
P.2	Employed
P.3	Employed
P.4	Employed
P.5	Employed
P.6	Employed
P.7	Employed
P.8	Employed
P.9	Employed
P.10	Employed
P.11	No longer employed
P.12	No longer employed
P.13	No longer employed
P.14	No longer employed