

Generative AI for Reducing Language and Administrative Barriers for Immigrants in Public Services

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Abstract. Generative artificial intelligence (AI), including large language models, is increasingly explored to support communication and navigation in public services. This paper presents a case study of how immigrants in Norway use and perceive generative AI when interacting with digital public systems.

We adopted a mixed-methods design, combining twelve individual interviews with immigrants, two focus groups with six NAV employees, one digital professional meeting with about twenty NAV employees, four interviews with staff from the municipal Refugee Unit, and a survey of 55 immigrants in Trondheim.

The study highlights language and administrative literacy as key barriers, including challenges with complex procedures and secure authentication (e.g., BankID). Generative AI was valued for translating, simplifying, and explaining bureaucratic content, but its use was mainly concentrated among participants with moderate to high digital skills. Concerns about accuracy, trust, and privacy shaped adoption. We find that AI should complement rather than replace human support; equitable deployment requires inclusive design, verified official sources, and training for both users and staff. The study contributes to discussions on digital inclusion and the responsible use of AI in the public sector.

Keywords: Digital inclusion · Generative AI · Immigrants · Public services · Mixed-methods research.

1 Introduction

Digital transformation in the public sector has shifted many services to online platforms, offering potential efficiency gains and improved accessibility [18]. In Norway, the national strategy for digitalization emphasizes “digital-by-default” as a guiding principle for service delivery [15]. While this approach benefits some groups of users, generally those with sufficient language and digital skills, it risks excluding those who face structural barriers to participation, particularly immigrants who may be navigating complex bureaucratic systems in a new language [16,5,20].

Language proficiency and administrative literacy are consistently highlighted in the literature as key factors for equitable access to public services [10]. For

immigrants, these barriers often intersect: limited familiarity with bureaucratic terminology can combine with challenges in administrative literacy, such as understanding required procedures or effectively using digital platforms. Studies in the Norwegian context show that many immigrants experience challenges when using digital self-service solutions, with newly arrived immigrants being particularly affected [16,9]. Without targeted support, the shift toward digital-first services risks reinforcing rather than reducing existing inequalities. Recent advances in generative AI, in particular large language models (LLMs) such as ChatGPT, are being explored as tools to make public services easier to understand and use [22]. By translating, summarizing, and simplifying complex information, generative AI may help reduce barriers related to language and administrative literacy [22]. However, its practical value depends on factors such as accuracy, contextual adaptation to the Norwegian setting, and trust among users and public institutions [22]. At present, there is limited empirical research on how generative AI is used and perceived by immigrants in the Norwegian public service context. In this paper, *access to public services* means both the ability to find, understand, and evaluate digital information and the capability to complete required administrative actions (e.g. authenticate with BankID, fill in and submit forms, upload documentation, track cases, and respond to agency requests and deadlines).

This study addresses that gap by exploring how generative AI may help address barriers, particularly linguistic and administrative challenges, that immigrants encounter when interacting with Norwegian public services. The study examines two research questions: **(RQ1)** What barriers do immigrants encounter when interacting with Norwegian digital public services? **(RQ2)** How is generative AI used by immigrants to navigate these services, and what factors enable or constrain its usefulness?

To answer these questions, we conducted a case study in Norway focusing on how immigrants use and experience generative AI to learn about how public services work and gather information about procedures and specific agencies. We used a mixed-methods case study design that combined qualitative interviews with 12 immigrants, focus groups with six NAV employees, a professional digital meeting with approximately 20 NAV employees, individual interviews with four employees from the Refugee Unit, and a survey of 55 immigrants.

The results indicate that immigrants face persistent language and administrative barriers when accessing Norwegian public services, particularly due to bureaucratic language. One recurring difficulty concerned obtaining BankID, which several newly arrived immigrants described as a major practical obstacle before they could access digital public services. The study further shows that generative AI tools, particularly ChatGPT, are already used by some immigrants to translate, simplify, and clarify complex information. At the same time, concerns about accuracy, trust, and privacy remain significant, highlighting both opportunities and limitations for the use of generative AI in public services.

By integrating user perspectives with institutional insights, this paper contributes to the growing body of research on inclusive digital transformation in the

public sector and provides practical considerations for implementing generative AI in ways that support equitable access.

2 Related Work

Research on digitalization and digital transformation in the public sector highlights both the use of digital tools to improve existing services (digitalization) and broader organizational changes to leverage these tools effectively (digital transformation) [18]. Existing policy frameworks often adopt a “digital-by-default” logic, which assumes that users possess a baseline of digital skills and trust in digital communication channels [5,13]. While this approach aligns with efficiency and innovation goals, it may unintentionally marginalize users with limited digital competencies or unfamiliarity with institutional procedures, among these groups are immigrants. Studies have shown that immigrants often face intersecting challenges, such as interpreting complex bureaucratic language, navigating unfamiliar authentication systems, and accessing support when automated systems fall short [16,10,9]. These barriers are not only technical but also sociocultural and institutional, and may require more than interface-level interventions.

Digital inclusion extends beyond physical access to technology. It encompasses skills, motivation, and the ability to achieve meaningful outcomes through technology use [10]. The immigrant population is highly diverse, ranging from individuals with little or no digital literacy to highly skilled migrants with university degrees. Those with limited digital and language skills are particularly vulnerable, however, even highly educated immigrants encounter difficulties [9,5,19]. These challenges are often linked to unfamiliarity with local administrative systems, for example, understanding requirements, navigating fragmented platforms, and interpreting application processes. Bureaucratic communication further complicates matters, as it often relies on formal and technical language that can cause cognitive overload, even for native speakers [1]. For immigrants, this burden is intensified by the need to interpret legal and institutional terminology in a second language [9]. Research suggests that simplification, step-by-step guidance, and multilingual support can help mitigate these issues [22,3].

One of the types of knowledge required to successfully interact with the digital public sector is *administrative literacy*, which represents skills and knowledge to navigate bureaucracy [12,14]. This type of knowledge is critical for exercising rights in digital welfare states and requires both language proficiency and procedural awareness [19,5]. Importantly, these barriers are not merely technical. They are often structural and institutional, rooted in fragmented service landscapes and insufficient support mechanisms [5]. Doring [12] identifies six sub-dimensions of administrative literacy: functional (skills to interpret official documents, forms, and technical language), communicative (skills to interact with public officials, exchange information, and interpret different modes of communication), structural (understanding how the administrative system is organized), processual (knowledge of bureaucratic procedures and of expected behavior), media (use of diverse tools, especially digital platforms, to seek, assess, and communicate

administrative information), and civic (rule compliance for the well-being of the wider community). The introduction of technologies in bureaucratic processes can affect the necessary administrative literacy required to be able to use the services, for example, they can reduce the amount of paperwork and requirements, but at the same time require more knowledge of the procedures [19].

Generative AI refers to technologies capable of producing human-like content, such as text, images, or code. Large Language Models (LLMs) like ChatGPT are a subset of generative AI trained on vast text corpora, enabling them to generate coherent and contextually appropriate responses to user input [3]. In public services, such models have shown potential for translating, summarizing, and simplifying complex bureaucratic information [22]. However, their effectiveness depends on several interrelated factors, including the accuracy and reliability of outputs, the ability to contextualize information, and the degree of user trust [22,23]. While LLMs offer promising benefits such as multilingual support and simplified communication, they also pose risks: they may generate inaccurate or biased content, obscure the origins of information, or raise concerns about data privacy and accountability [23,2,3]. These limitations are particularly critical in high-stakes areas like welfare, healthcare, or immigration services. Governance mechanisms, such as transparency, human oversight, and verified data sources are essential to ensure safe and equitable adoption [23]. Research emphasizes that such technologies should complement and not replace human support and that successful integration depends on both technical and institutional safeguards [23].

Although interest in AI for public administration is growing, much work remains at the level of technical capability or general ethics. Moreover, most research on AI in the public sector focuses on instruments to internally support employees or for automating decision making [4,7]. There is limited research on generative AI to support the users of public services, such as immigrants, in their information retrieval activities. With this study, we aim to understand the active role of generative AI tools in this context and how it is used and perceived by immigrants with different backgrounds.

3 Method

This study is based on a qualitative case study approach [21] that examines immigrants' perceptions and use of generative AI tools in the context of digital public services. Norway was chosen as the setting for this study due to its high level of digitalization and strong commitment to a digital-by-default strategy [15].

To capture both individual experiences and broader usage patterns, we adopted a mixed-methods approach [8,21], combining semi-structured interviews with an online survey. This allowed us to integrate interview insights from both immigrants and public-sector employees with survey data from a broader immigrant sample.

3.1 Data Collection

Data collection took place in spring 2025 and was conducted in a large city to ensure access to a diverse immigrant population and established integration services. The data was collected through semi-structured interviews and an online survey that proceeded in parallel. Table 1 shows an overview of the data collection. The interviews involved both immigrants and public-sector employees who work with immigrants, while the survey targeted a broader sample of immigrants living in Norway. This combination made it possible to capture both individual experiences and institutional perspectives, as well as broader patterns across the immigrant population.

Table 1. Overview of data collection.

Role	Number of participants	Type	Duration
Immigrants	12	Individual interviews (face-to-face/digital)	15–40 min
NAV employees (focus groups)	6 (2 groups of 3 persons)	Group interviews (face-to-face)	55–65 min
NAV employees (digital meeting)	~20	Digital professional meeting	~20 min
Refugee Unit employees	4	Individual interviews (face-to-face)	40–60 min
Immigrants	55	Online survey (Norwegian/English)	–

Survey Our online survey was completed by 55 immigrants living in Norway. The survey was distributed via Facebook groups for immigrants and expatriates in Norway (e.g., 'New in Trondheim', 'Foreigners in Norway') and was available in both Norwegian and English. Participants were not pre-selected, but chose to take part voluntarily through links shared in language cafés, voluntary organizations, and social networks. The survey was organized in five thematic sections: Section 1 investigated demographics and background (e.g., country of origin, age, education, and language skills); Section 2 focused on experiences with public services; Section 3 explored support-seeking strategies and the use of generative AI; Section 4 examined trust and preferences regarding different AI tools; and Section 5 addressed ethical concerns and the perceived usefulness of AI in public services.

The demographics from the survey show that the sample included 55 respondents with diverse backgrounds. The majority were between 25–34 years old (n=25), followed by 35–44 years (n=12), 18–24 years (n=9), 45–55 years (n=5), and 55+ years (n=4). In terms of country of origin, the most represented were Syria (n=10), Ukraine (n=6), India (n=5), Afghanistan (n=3), and

Eritrea (n=3), with the remaining participants coming from various countries across Europe, Asia, and Africa, including Iraq, Pakistan, Somalia, and Turkey. Regarding length of stay in Norway, most respondents had lived in the country for 1–3 years (n=17) or more than 5 years (n=14), followed by 6 months–1 year (n=10), 3–5 years (n=8), and less than 6 months (n=6).

Immigrants’ Interviews We performed twelve individual interviews with immigrants conducted face-to-face or digitally. Most participants were recruited through language cafés, voluntary organizations, and informal social settings.

The interviews lasted between 15 and 40 minutes and were performed either in English or Norwegian according to the preference of the interviewee. The interview guide was originally developed in Norwegian and later translated into English using AI-based translation tools (e.g., ChatGPT) to ensure accessibility. All translations were manually reviewed and adjusted to preserve accuracy and clarity. The interview guide was developed in a semi-structured format to balance consistency across interviews with the flexibility to explore individual experiences in depth. It included topics such as language skills, educational background, length of stay in Norway, experiences with public services, and challenges related to digital systems and bureaucratic understanding. Participants were also asked about their use of digital tools, including generative AI (e.g., ChatGPT), and their thoughts on how such technologies could support access to public services. The questions were formulated in accessible, everyday language to accommodate varying levels of linguistic and cultural background. To ensure inclusivity, the guide was available in both Norwegian and English. Participants could choose their preferred language, and in cases of uncertainty, questions were rephrased or supported by translation tools such as ChatGPT, used occasionally during interviews to facilitate understanding when language barriers arose.

Table 2 shows an overview of the participants in the interviews.

Employees’ Interviews and Focus Group Two focus groups were conducted with a total of six employees in the Norwegian Labour and Welfare Administration (NAV). In addition, a digital professional meeting was held with approximately twenty NAV employees from different local offices across Trøndelag. Finally, four individual interviews were conducted with staff from *Flyktningsheten* (the municipal Refugee Unit in Trondheim). These data sources provided complementary frontline perspectives that helped illuminate challenges faced by immigrants with low language and digital proficiency when interacting with public services.

The interview guide contained questions about the employees’ background, the services provided by the Refugee Unit, how they communicate with newly arrived refugees, and the challenges refugees face when navigating the Norwegian welfare system. It also covered the use of digital tools and systems, experiences with language barriers, and their perspectives on the potential benefits and limitations of using generative AI, such as ChatGPT, to support refugee integration and access to public services.

Table 2. Background information on interview participants (N=12).

Code	Gender	Country of origin	Years in Norway	Education	Language skills
IMM1	Male	USA	4	Master	English (fluent), some Norwegian
IMM2	Male	UK	1+	PhD	English (fluent), Norwegian (B1)
IMM3	Female	USA	3	Bachelor	English (fluent), Norwegian (B2 in progress)
IMM4	Male	Syria	2	None	Very limited Norwegian/English
IMM5	Male	Ethiopia	8	PhD	English (fluent), good Norwegian
IMM6	Male	China	5+	PhD	English (fluent), limited Norwegian
IMM7	Female	Ukraine	0.5	None	English (limited), Norwegian (limited)
IMM8	Male	Poland	7.5	BSc student (NTNU)	Polish; English (fluent); good Norwegian
IMM9	Male	Syria (Kurdish)	1.5	Upper secondary (incomplete)	Kurdish; Turkish; Arabic; Norwegian (intermediate)
IMM10	Male	Germany	2	PhD/Postdoc	German; English (fluent); French; some Norwegian (A2)
IMM11	Female	Germany	2	MSc, partner of NTNU staff	German; English; some Norwegian (understands Danish written)
IMM12	Male	India	2	MSc student (NTNU)	Hindi; English (fluent); learning Norwegian

The digital meeting was part of NAV’s regular professional forum and gathered resource persons working on integration from various NAV offices across Trøndelag. After presenting the research topic, the meeting continued as a collective discussion where employees shared their perspectives and experiences related to immigrant interaction with public services. There was also room to ask follow-up questions and clarify relevant points during the session. This provided a valuable supplement to the interviews, offering a broader regional perspective on common challenges and practices.

These two organizations (NAV and Flyktningeheten) have a central role in supporting refugees that arrive in Norway through refugee programs. When refugees first come to Norway, they are assigned a supervisor in Flyktningeheten that helps them with settling down and assists with creating accounts and learning about the services and life in Norway as well as setting up a program of courses that refugees need to take in the first two years (one year for refugees from Ukraine) to reach a predefined goal—either to enroll in an educational institution or to start working. If the goal is not reached within the 2-years program, they are transferred to NAV that follows up on the process and work in continue pursuing the goal. Throughout this follow up process in both organizations, refugees develop a close relationship with their assigned caseworker that is often their primary source of help when it comes to getting public services in Norway.

3.2 Data Analysis

The first step involved preparing and reviewing the collected data. Interview recordings were automatically transcribed using Microsoft Teams’ built-in transcription tool, and were then manually reviewed and corrected for accuracy. One interview, which was not recorded, was documented through detailed notes written immediately after the session.

Survey data were exported from Google Forms to Excel, where the dataset was reviewed and cleaned by identifying and excluding incomplete or inconsistent responses. The cleaned dataset was then analyzed using descriptive statistics to summarize key trends and patterns relevant to the research questions.

Textual data was analyzed using Systematic Text Condensation [17], following the four-step process of: (1) coding; (2) identifying meaning units; (3) condensing; and (4) synthesizing across cases. This method is suitable for applied research aiming to produce transferable insights from heterogeneous data.

For illustration, Table 3 shows how a statement was transformed through the four steps of Systematic Text Condensation.

3.3 Ethical Considerations

The study was approved by the Norwegian Centre for Research Data (Sikt). Participants gave informed consent, and anonymity and confidentiality were ensured. In some cases, AI-based translation tools were used to support communication, applied carefully to avoid storing or sharing identifiable data.

Table 3. Example of coding process using Systematic Text Condensation.

Code (Step 1)	Meaning unit (Step 2)	Condensed unit (Step 3)	Synthesized theme (Step 4)
<i>"I struggle with filling out online forms, especially at NAV. I do not always understand what I am supposed to do, and this makes me repeat the process several times."</i>	Difficulty completing online forms	Struggles with understanding and repeating form submissions	Navigation in bureaucratic systems

4 Findings

The findings are based on qualitative interviews with immigrants and public-sector employees, as well as survey responses from 55 immigrants in Norway. Results are organized into three themes: (1) language and administrative literacy, (2) navigating bureaucratic systems, and (3) experiences with and perceptions of generative AI.

4.1 Language and Administrative Literacy

Language emerged as the most consistent barrier across the materials. While many participants managed everyday Norwegian or relied on English, bureaucratic language was repeatedly described as confusing and overly formal. As one participant noted: *"Even though language is not a big problem for me, the bureaucratic language is heavy and difficult to interpret."* (IMM5, translated from Norwegian).

Participants with weaker language skills often relied heavily on human support to complete tasks: *"If I have any problem, I can just contact my coordinator, and she helps me with everything."* (IMM7, translated). Frontline staff underscored this reliance, stating: *"Interpreter, interpreter, interpreter . . . In 90–95% of the cases we use an interpreter in first-time meetings."* (NAV focus group, translated).

At the same time, several highly educated participants explained that access problems were partly mitigated by English-language content and ad hoc translation tools, even though formal bureaucratic phrasing remained demanding. One participant noted that language "was not an issue" due to English pages and translation software, though procedures could still be unclear. Another described switching between Norwegian and English versions because "some details were missing or translated oddly," often resorting to calling NAV for clarification. A third emphasized that Norwegian remains "too difficult" for complex tasks, preferring English and translation tools when available.

Digital skills also varied widely. NAV employees highlighted the need for hands-on, foundational training: *"Basic training on everything from how to turn*

on the PC . . . there are levels, and we assess which level the user is at.” (NAV focus group, translated). Even among confident users, administrative literacy—knowing where to start, which terms to use, and which steps are expected—remained a distinct challenge. As IMM5 explained: *“Information is often fragmented and difficult to find . . . I have often had to spend a lot of time figuring out what is actually expected of me.”* (translated from Norwegian).

4.2 Navigating Bureaucratic Systems

A recurring challenge was understanding what is expected, finding relevant information, and completing digital forms. For newly arrived refugees, these difficulties were particularly acute. One participant explained: *“I struggle with filling out forms online, especially at NAV. I do not always understand what I need to do, and this makes me repeat the process several times.”* (IMM7, translated). Another described the initial period after arrival: *“The biggest obstacle is probably having no BankID . . . that was probably the biggest one when I first arrived, and it took one or two months to get that in order.”* (IMM1, translated). NAV employees confirmed this dependency, noting: *“Without BankID you are almost stuck. Everything depends on it, and until they get it, we have to print and sign things manually.”* (NAV focus group, translated).

Skilled immigrants with strong language and digital skills also reported barriers, though of a different nature. One participant explained: *“It can be unclear where to begin and which steps to follow.”* (IMM5, translated). Another emphasized that the main challenge was not language itself but lack of system overview: *“It is not about the language . . . it is more about not knowing where to look. Information is all over the place, and sometimes you end up in circles.”* (IMM3). This illustrates that challenges are not limited to language or digital skills alone, but also to how bureaucratic processes are structured and communicated.

Employees confirmed this picture, stressing that the issue is as much about system design as it is about language. As one NAV employee reflected: *“It is a bit difficult to find your way on your own . . . especially when you have to submit applications.”* (NAV focus group, translated). Staff also highlighted the need for repeated, step-by-step support: *“We have to show them again and again . . . even if they did it last week, the steps are easily forgotten.”* (NAV focus group, translated). Similarly, a caseworker from the Refugee Unit noted: *“People often come to us saying ‘I just want to apply for X,’ but they don’t know there are three other steps first. They can’t see the whole process.”* (Refugee Unit interview).

Overall, navigating bureaucratic systems posed significant challenges both for newly arrived refugees, who often lacked BankID and depended on interpreters, and for skilled immigrants, who nevertheless found that fragmented information and unclear procedures created uncertainty. As one Refugee Unit employee summarized: *“The first months are chaos for many. They get so much information, but without the context, it doesn’t make sense.”* (Refugee Unit interview). These findings show that the challenges are not only about language or digital skills. They also reflect gaps in administrative literacy, such as knowing where to start, what steps are required, and how to understand official terms. This

overlap between digital and administrative demands shows that access barriers are interconnected and affect users with diverse backgrounds.

4.3 Experiences with and Perceptions of Generative AI

Generative AI, particularly ChatGPT, was used as a supplementary aid, most often by participants with medium digital skills and limited Norwegian, who nevertheless faced challenges with administrative literacy tasks such as understanding forms or procedures. As one participant explained: *“I can’t remember a single time I had to handle a bureaucratic process without using AI. ChatGPT and similar tools have helped me understand laws, fill in forms, and translate documents.”* (IMM4, translated from Norwegian). Others, however, emphasized that they had never used such tools themselves, instead relying on interpreters or coordinators for support (IMM7).

Survey data mirror these findings: 54.2% reported that generative AI helps them understand public services better, and 47.5% reported using it for translation or simplification. On a separate scale item, 40% agreed or strongly agreed that generative AI can help them understand Norwegian public services, 33% were neutral, and 27% disagreed or strongly disagreed.

Trust and skepticism varied widely. Several participants emphasized the need to double-check outputs. One noted: *“For research, I don’t trust it, but I might use it to get an overview.”* (IMM6). Caseworkers also observed generational differences: younger Ukrainians frequently used ChatGPT for translation or writing applications, whereas older immigrants had never tried it and might be more likely to “trust it blindly” without verification (FE4). Public-sector employees echoed these concerns, warning that outputs may mislead vulnerable users if not checked against official sources. Survey responses also indicated caution: 27.1% reported fact-checking AI information often or always, while 8.5% said they never do so. Privacy concerns were common (61.0%), and 69.5% expressed worry about misinformation.

Despite these concerns, both immigrants and employees pointed to potential if tools are integrated with official portals and quality-assured sources. Suggested improvements included embedding assistants directly into platforms (e.g., NAV.no), providing spoken explanations, and constraining training data to official sources. As one caseworker put it: *“It could be very useful if it explained the first steps in a simple way, in their own language, before we step in with the more complex guidance.”* (FE1). Notably, 44% of survey respondents preferred that models be trained only on official sources; 33% were unsure, and 24% supported including additional types of sources. The uneven uptake of generative AI suggests a Matthew effect: digitally confident users convert AI into efficiency gains, whereas newcomers without prerequisites (e.g. BankID, hands-on training) remain dependent on human support. This pattern shows that users with higher digital and language skills benefit the most from generative AI, whereas immigrants with limited digital and language skills remain reliant on human support.

5 Discussion

This study examines how language and administrative literacy act as persistent barriers for immigrants navigating Norwegian public services, and how generative AI may help address them. A distinctive contribution is the dual perspective: newly arrived refugees with limited digital and language skills alongside skilled immigrants who nevertheless face administrative hurdles, showing that generative AI supports different groups in different ways.

We contribute to the literature on digital inclusion and public service accessibility in three main ways. First, we provide empirical evidence from Norway showing that language and administrative literacy remain central barriers in a highly digitalized welfare state, and that these barriers persist even when digital skills are present. Second, we extend existing research on generative AI in public services by demonstrating how immigrants actively use tools such as ChatGPT for translation, simplification, and procedural guidance, while also revealing clear concerns around trust, privacy, and accuracy. Third, by integrating immigrant perspectives with insights from frontline employees, we highlight how generative AI may both mitigate and exacerbate digital divides: it can support those with medium skills, but risks excluding the most vulnerable users without targeted design and human support.

The findings confirm that language proficiency remains the most significant barrier, even for highly educated immigrants, supporting prior research on digital inclusion in Norway [16]. Bureaucratic language was described as overly complex and formal, creating difficulties even for those with moderate Norwegian skills. These challenges are compounded by gaps in both digital and administrative skills, particularly in tasks requiring secure authentication such as BankID. This resonates with van Dijk’s theory of the digital divide [10], which emphasizes that inequality is not only about access to technology but also about motivation, skills, and the outcomes of use. In our study, participants with high digital skills were able to leverage AI tools effectively, while those with lower skills struggled to adopt them, illustrating a paradox also observed in previous research [22].

A central implication of these findings is the sharp contrast between skilled and non-skilled immigrants in their use of generative AI. Skilled participants with stronger digital competences and higher Norwegian proficiency mainly employed AI to save time using it as an efficiency aid that complemented existing resources. Generative AI was perceived as a valuable supplement, particularly for translation, simplification of bureaucratic text, and step-by-step procedural guidance. Participants described AI as a low-threshold aid for these tasks. These findings resonates with international research showing that the benefits of AI often benefit those who already possess a baseline of skills and resources [22,6]. By contrast, newly arrived refugees with limited schooling or minimal digital experience rarely engaged with AI directly; for them, preconditions such as BankID, reliance on interpreters, and the need for hands-on training were more decisive than AI assistance, indicating a risk that AI could reinforce existing divides if inclusive design and training are not provided. This aligns with prior work showing that users often prefer human advisors and that AI solutions demand

patience and skills that not all users possess, suggesting hybrid models where AI supplements, rather than replaces, human guidance [22].

From a policy perspective, these differences underscore the need to tailor digital inclusion strategies to *administrative literacy* rather than assuming homogeneous readiness. Administrative literacy highlights that successful use of digital public services depends on procedural knowledge, including knowing where to start, which terms to use, and how to complete steps, rather than solely on technical skills or access [19]. Accordingly, effective solutions should integrate AI within trusted official channels and combine it with human support and training, so that explanations are reliable, comprehensible, and actionable [22]. Otherwise, digitalization efforts, including the introduction of AI, risk reproducing or widening existing inequalities, as documented in studies of migrant interactions with digital welfare services [5].

Concerns about accuracy, outdated information, and privacy underline that trust remains a decisive factor in the adoption of generative AI in public services. Prior studies have highlighted trust as a prerequisite for digital service uptake [11], and our findings extend this by showing how such concerns directly shape immigrants’ willingness to use AI tools in sensitive administrative contexts. From the perspective of administrative literacy [19], distrust of AI outputs can be understood as a barrier to developing the procedural knowledge needed to navigate bureaucratic systems. If AI-generated explanations are not perceived as reliable and legitimate, they fail to reduce complexity and may instead deepen uncertainty. This suggests that generative AI cannot replace institutional trust-building measures but may serve as a bridge when embedded within official platforms and aligned with verified sources.

For agencies such as NAV and the Refugee Unit, the findings indicate that generative AI could provide scalable support for language simplification and procedural explanations. Effective deployment should include integration with verified and up-to-date information sources, clear disclaimers about the scope and limitations of AI outputs, and training for both staff and service users. Without such measures, AI risks excluding precisely those users with the lowest digital and language skills, who are also the most dependent on public services. These recommendations are consistent with the responsible-AI literature, which emphasizes clear provenance, human oversight, and the use of verified sources so that AI in public services supports, rather than undermines, equity and trust [23].

Overall, this study suggests that while generative AI has clear potential to support digital inclusion, it cannot substitute for structural improvements in system design or for personalized human assistance. Its value lies in being integrated as part of a broader strategy that combines technological innovation with institutional safeguards and targeted support for vulnerable groups.

From a governance perspective, agencies such as NAV should ensure that any AI tools offered directly to the public are safe, trustworthy, and privacy-preserving, with clear provenance and human fallback. A pragmatic path is controlled “official” assistants that run on public infrastructure, integrate author-

itative sources, and are constrained to verified, up-to-date rules. Deployments should include transparency about scope and limitations, auditing and redress mechanisms, and equity monitoring. In practice, trust and uptake hinge on concrete features: high-quality domain translation, explicit source provenance, and strong privacy guarantees that avoid retaining personal data.

6 Conclusion

This study examined how generative AI can help reduce language and administrative barriers for immigrants navigating Norwegian public services. Findings from interviews and a survey with 55 immigrants show that language remains the most significant barrier, often paired with challenges related to administrative literacy and to obtaining credentials for secure authentication systems such as BankID. Generative AI tools, particularly ChatGPT, were valued for translation, simplification, and clarification of official information, but effective use was largely limited to participants with digital confidence and some degree of administrative literacy. This highlights the risk of reinforcing existing divides if solutions are not designed inclusively. Public-sector adoption should therefore integrate AI with verified sources, ensure transparency about limitations, and provide training for both staff and users. Hybrid service models, where AI complements rather than replaces personal support, appear most promising.

The study is limited by its recruitment methods, which may have overrepresented digitally literate immigrants, and by its focus on the Norwegian context. While the sample is not statistically representative, the study aimed to capture diverse user experiences rather than generalizable trends. Future work can address the integration of AI in official portals, explore long-term effects on independent navigation, and compare across welfare states.

Ultimately, the challenge is not only technological but institutional: designing systems where AI strengthens inclusion without deepening divides.

Generative AI statement. The authors acknowledge the use of ChatGPT as a writing support tool. It was used to assist with language polishing and in writing the initial draft, which was then reviewed and edited by the authors.

References

1. Almutairi, J.: Problems immigrants face in host countries. *International Business & Economics Research Journal* **14**(4), 691–698 (7 2015). <https://doi.org/10.19030/iber.v14i4.9358>
2. Beltran, M.A., Ruiz Mondragon, M.I., Han, S.H.: Comparative Analysis of Generative AI Risks in the Public Sector. In: Proceedings of the 25th Annual International Conference on Digital Government Research. pp. 610–617. dg.o '24, Association for Computing Machinery, New York, NY, USA (Jun 2024). <https://doi.org/10.1145/3657054.3657125>, <https://dl.acm.org/doi/10.1145/3657054.3657125>
3. Berti, L., Giorgi, F., Kasneci, G.: Emergent abilities in large language models: A survey. arXiv preprint arXiv:2503.05788 (2025), <https://arxiv.org/abs/2503.05788>, preprint. Under review.
4. Bright, J., Enock, F., Esnaashari, S., Francis, J., Hashem, Y., Morgan, D.: Generative AI is already widespread in the public sector: evidence from a survey of UK public sector professionals. *Digital Government: Research and Practice* **6**(1) (Mar 2025). <https://doi.org/10.1145/3700140>, <https://dl.acm.org/doi/10.1145/3700140>
5. Buchert, U., Anttonen, A., Kallio, J.: Is digitalisation of public health and social welfare services reinforcing social exclusion? the case of public services in finland. *Critical Social Policy* **42**(4), 601–621 (2023). <https://doi.org/10.1177/02610183221105035>
6. Christensen, S.N., Nielsen, J.A., Noesgaard, M.S., Elmholdt, K.T., Ratner, H.F.: Muligheder og barrierer for kunstig intelligens i den offentlige sektor: En socioteknisk analyse. *Samfundsliderskab i Skandinavien* **39**(4), 88–113 (2024). <https://doi.org/10.22439/sis.v39i4.7325>, <https://doi.org/10.22439/sis.v39i4.7325>
7. Chun, S.A., Noveck, B.S.: Introduction to the Special Issue on ChatGPT and other Generative AI Commentaries: AI Augmentation in Government 4.0. *Digital Government: Research and Practice* **6**(1), 1–8 (Mar 2025). <https://doi.org/10.1145/3716859>, <https://dl.acm.org/doi/10.1145/3716859>
8. Creswell, J.W., Creswell, J.D.: *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publications, Thousand Oaks, CA, 5 edn. (2018)
9. Crivellari, I., Pappas, I.O.: Beyond the digital divide: Exploring immigrants' pathways to digital citizenship. In: Proceedings of the Forty-Fifth International Conference on Information Systems (ICIS 2024). pp. 1–17. Association for Information Systems, Bangkok, Thailand (2024), https://aisel.aisnet.org/icis2024/soc_impactIS/soc_impactIS/19, completed Research Paper
10. van Dijk, J.: *The Digital Divide*. Polity, Cambridge, UK (2020). <https://doi.org/10.1002/asi.24355>
11. Díaz Andrade, A., Doolin, B.: Information and communication technology and the social inclusion of refugees. *MIS Quarterly* **40**(2), 405–416 (2016), <https://www.jstor.org/stable/10.2307/26628912>
12. Döring, M.: How-to Bureaucracy: A Concept of Citizens' Administrative Literacy. *Administration & Society* **53**(8), 1155–1177 (Sep 2021). <https://doi.org/10.1177/0095399721995460>, <https://doi.org/10.1177/0095399721995460>, publisher: SAGE Publications Inc
13. Fleron, B., Pries-Heje, J., Baskerville, R.: Becoming a Most Digitalized Country: A History of Digital Organizational Resilience in Denmark. *Communications of the*

- Association for Information Systems **51**(1), 120–139 (2022). <https://doi.org/10.17705/1CAIS.05107>, <https://aisel.aisnet.org/cais/vol51/iss1/16/>
14. Grönlund, , Hatakka, M., Ask, A.: Inclusion in the E-Service Society – Investigating Administrative Literacy Requirements for Using E-Services. In: Wimmer, M.A., Scholl, J., Grönlund, (eds.) *Electronic Government*. pp. 216–227. Springer, Berlin, Heidelberg (2007). https://doi.org/10.1007/978-3-540-74444-3_19
 15. Kommunal- og moderniseringsdepartementet: Digitaliseringsstrategi for offentlig sektor 2019–2025: Én digital offentlig sektor (2019), <https://www.regjeringen.no/no/tema/statlig-forvaltning/it-politikk/digitaliseringsstrategi-for-offentlig-sektor/id2612415/>, lastet ned 15. mai 2025
 16. Kommunal- og moderniseringsdepartementet: Digital hele livet: Nasjonal strategi for økt digital deltakelse og kompetanse i befolkningen (2021), <https://www.regjeringen.no/no/dokumenter/digital-hele-livet/id2870833/>, publikasjon-skode: H-2512 B
 17. Malterud, K.: Systematic text condensation: A strategy for qualitative analysis. *Scandinavian Journal of Public Health* **40**(8), 795–805 (2012). <https://doi.org/10.1177/1403494812465030>, <https://doi.org/10.1177/1403494812465030>
 18. Mergel, I.: Digital service teams in government. *Government Information Quarterly* **36**(4), 101389 (2019). <https://doi.org/10.1016/j.giq.2019.07.001>
 19. Safarov, V.: Administrative literacy in the digital welfare state: Migrants navigating access to public services in finland. *Nordic Journal of Migration Research* **13**(2), 137–154 (2023). <https://doi.org/10.1017/S1474746422000719>
 20. Schou, J., Pors, A.S.: Digital by default? a qualitative study of exclusion in digitalised welfare. *Social Policy & Administration* **53**(3), 464–477 (2019). <https://doi.org/10.1111/spol.12470>
 21. Tjora, A.: *Kvalitative forskningsmetoder i praksis*. Gyldendal, Oslo, 4 edn. (2021)
 22. Truong, L., Lee, S., Sawhney, N.: Enhancing conversations in migrant counseling services: Designing for trustworthy human-ai collaboration. *Proceedings of the ACM on Human-Computer Interaction* **8**(CSCW2), 495:1–495:25 (2024). <https://doi.org/10.1145/3687034>, <https://doi.org/10.1145/3687034>
 23. Weidinger, L., Uesato, J., Rauh, M., Griffin, C., Huang, P.S., Mellor, J., Glaese, A., Cheng, M., Balle, B., Kasirzadeh, A., Biles, C., Brown, S., Kenton, Z., Hawkins, W., Stepleton, T., Birhane, A., Hendricks, L.A., Rimell, L., Isaac, W., Haas, J., Legassick, S., Irving, G., Gabriel, I.: Taxonomy of risks posed by language models. In: *Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency*. p. 214–229. FAccT '22, Association for Computing Machinery, New York, NY, USA (2022). <https://doi.org/10.1145/3531146.3533088>, <https://doi.org/10.1145/3531146.3533088>