Refugees and Robots versus Recruitment:

Integrating Artificial Intelligence into Refugee Employment Services of Canada

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Abstract

Canada increasingly welcomes new refugees, but after arrival they face numerous personal and systemic barriers to securing employment within their fields of experience, causing them to take on low-paying jobs. This results in poor resettlement experiences and a loss of labour assets for the Canadian economy. Settlement agencies are on the frontline to bridge this gap, but high workloads and funding models incentivize number of job placements instead of quality of employment obtained. This paper explores opportunities and challenges of integrating artificial intelligence (AI) into Canadian settlement agencies to enhance effectiveness of refugee clients obtaining employment commensurate with their qualifications.

This is a pilot study aimed at investigating the intersection of AI in refugee employment services, a topic that remains largely unexplored in the current literature. Thirteen interviews with counsellors, managers, and I.T. experts employed at five organizations showed that they had an optimistic perception of AI's ability to support their work but limited knowledge about AI and concerns such as data privacy. The qualitative analysis found that AI tools – such as mock interviews, resume building, customer support chatbots, and customized job search – may be potential solutions to increase efficiency and quality of services, which can free up counsellors to spend more quality time for tailor support to clients and track their progress. Accessible trainings for counsellors and clients will be key to mitigating barriers for adoption, as well as securing funding, testing the tools for algorithmic bias, ensuring the protection of sensitive client data, and establishing policies and guidelines for AI usage. Despite potential benefits that AI integration suggests, to address the deskilling of refugees, a policy shift is essential that creates measurable targets to increase employment outcomes aligned with their qualifications.

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Introduction

We are currently living in a time where humanity is facing the highest levels of displacement on record. At the end of 2022, 108.4 million people – over 1.3 percent of the global population – had been forcibly displaced from their homes as a result of conflict, persecution, human rights violations, violence, and natural disasters (UNHCR, 2023). Of this population, 34.6 million are refugees that had to leave their home country to seek international protection (UNHCR, 2023). Canada has received over one million refugees since 1980 (UNHCR, 2022). It has also made various pledges to continue to do so in the future, including a commitment to welcome 51,615 refugees from 2024 to 2027 through the Government-Assisted Refugee Program, along with many more through other refugee resettlement streams (Refugees and Citizenship Canada Immigration, 2023). This is in line with the government's belief that newcomers are essential in driving economic growth, building communities, and filling labour shortages in high-need sectors (Government of Canada, 2023).

Although Canada continues to welcome refugees, many do not secure employment that is in line with their previous education and work experience due to various personal and systemic barriers (Senthanar et al., 2023). They resort to lower paying and unskilled jobs, despite high qualifications, ultimately causing poor settlement experiences. Settlement agencies help in bridging this gap with employment services. However, due to funding models that prioritize number of clients served over quality of employment, as well as high client workloads for counsellors (Kosny et al., 2020), these agencies have been criticized for not providing customized support (Senthanar et al., 2019), deprioritizing refugee clients

(Senthanar et al., 2020), and systemically channeling clients into low wage jobs (Creese & Wiebe, 2009).

The objective of this study is to explore whether artificial intelligence (AI) can be a solution to these issues. We investigate the opportunities and challenges faced by Canadian settlement agencies in integrating AI tools to aid refugee clients in obtaining employment commensurate with their qualifications. A literature review was first conducted to understand the context of the study. Interviews with employees of settlement agencies were held, including client-facing counsellors, program managers, and I.T. experts. An inductive thematic analysis on these discussions shed light on perspectives about AI usage, applications of AI tools, potential barriers to adoption, and policy considerations.

Literature Review

Overqualified and Underpaid

Finding protection in Canada may resolve refugees' immediate security concerns but a major challenge faced during resettlement is finding meaningful employment in a new country. Contrary to stereotypes that refugees do not find employment or want to rely on income support from the government, most refugees look for work almost immediately upon arrival, feeling pressure to have financial security and self-sufficiency (Kosny et al., 2020). Refugee unemployment rates (six to nine percent) are comparable to Canadian-born citizens (six percent), yet their employment income in the first year of settlement is less than half the Canadian average (UNHCR, 2022). One reason for this disparity is that many refugees in Canada

do not secure employment that is in line with their previous education and work experiences. This leads to downward occupational mobility where they resort to unskilled jobs, commonly referred to as "survivor jobs", that are often associated with limited earning potential (Senthanar et al., 2023).

Many surveys in Canada have captured these trends of being overqualified and underpaid. For example, a study in Winnipeg found that 38% of refugees arrived with university education and 25% with college or trade certificates, but even after 3 years of residency in Canada, 80% were working in unrelated sales or services jobs and 15% in construction (Carter & Osborne, 2009). Another survey report in Hamilton, Ontario, showed that only 44% of refugees reported their employment as commensurate with their skills and experience and 83% reported that their income was not enough for their needs, exceeding other immigrant categories (Araf & Wayland, 2023). A study across Canada showed 82% of refugees held a paying job but of these 70% were not satisfied with their occupation and 60% reported being over-qualified for their current position (Lamba, 2003). Although 39% of the sample were in professional or managerial careers in their former homes, only 7% were able to find comparable employment when first arriving in Canada, and 75% of the refugees had not received a promotion (Lamba, 2003). This dissatisfaction with job placement, lack of job security and opportunities for advancement, and poor pay also contribute to restrictions in housing affordability, which is essential in their resettlement and integration process (Carter & Osborne, 2009). Surveys of refugees in Canada experiencing overqualification were also more likely to report a decline in mental health (Chen et al., 2010).

This employment trend is also prominent in the collective immigrant population. Despite 33% to 43% of adult immigrants in Canada holding a bachelor's degree or higher – a higher ratio than the 26% of Canadian-born – their earnings shortfall about 18% (Agopsowicz & Billy-Ochieng, 2019). Research suggests that this trend of working in lower-paid occupations relative to their education accounts for about 40% of the earnings gap and may be costing Canada $50 billion (Agopsowicz & Billy-Ochieng, 2019).

Barriers to Meaningful Employment

There are many hurdles that contribute to refugees not securing employment within their fields of experience, including individual, organizational, and systemic factors. Recurring barriers reported in various studies include lack of language proficiency, failure of Canadian organizations to recognize foreign credentials, employers demanding Canadian work experience that refugees do not have upon arrival, and several types of discrimination (Senthanar et al., 2023). One barrier that is particular to refugees, compared to other migrants, is lost documentation to verify their occupational or education status (Lamba, 2003) and not being able to retrieve information from institutions or employers in their former country due to ongoing war or crisis. Systemic barriers may include immigration regulations that are influenced by political interests rather than the well-being of refugees and socio-political climates that enable stereotypical beliefs of refugees being a social burden or unwanted competition in the job market (Lee et al., 2020). In addition, government policies have been criticized to only fund short-term programs that focus on low-wage employment (Creese & Wiebe, 2009). Refugees may also be highly affected by post-traumatic stress disorder, depression, and anxiety, which make workforce integration more difficult (De Vroome & Van

Tubergen, 2010), but engagement in education or employment can reduce their risks of mental

health issues (Lee et al., 2020).

As a result of these barriers, refugees from diverse backgrounds tend to rely on family

and ethnic group ties when seeking jobs, which also increases their likelihood of having a

greater quality of employment (Lamba, 2003). For example, one survey of privately sponsored

refugees showed that 35% received help from friends of the same ethnicity and 23% from

family to find a job (Hanley et al., 2018). However, these network connections may not be able

to compensate for downward occupational mobility, especially for those previously employed

in professional or managerial positions (Lamba, 2003). These are merely pathways to survival

strategies, especially if these connections do not have adequate access to resettlement services

(Lamba, 2003). Part of the reason for reliance on ethnic ties may also be cultural perspectives

that family members and those with the same ethnicity are considered safer support systems,

meanwhile asking for outside help requires vulnerability (Hanley et al., 2018). Therefore, it is

suggested that the role of public services should be promoted as an entitlement for refugees

(Hanley et al., 2018).

Settlement Agencies

Government-funded settlement programmes are on the frontline of helping refugee

economic integration through services such as language classes, resume writing, network

connections, mock interviews, and career coaching. However, there has been criticism of how

these programs may systematically channel newcomers into low wage "survival work" and

further perpetuate de-skilling (Creese & Wiebe, 2009). One study that compared experiences of

refugee women arriving through the four different refugee streams of Canada found that

government-assisted refugees struggled the most in finding employment and that bridging

programmes in Canada tend to target highly educated immigrants, whereas refugees were of

lesser priority (Senthanar et al., 2020). Another study addressed the issue from the settlement

agency's perspective where staff experience high client workloads and the funding model

incentivized them to report the number of job placements, rather than quality of work or

tracking client progress through follow-ups (Kosny et al., 2020). One study found that

employment services were provided as standardized checklists, rather than customized to the

needs of individuals (Senthanar et al., 2019). For example, refugee women who were not

employed in their home country were referred to counselors who assumed they would know

how to apply to jobs (Senthanar et al., 2019). This lack of tailored or efficient support was

attributed to large workload demands and underfunding for service providers, which also led

them to prioritize "job ready" immigrants that were mostly not refugees (Senthanar et al.,

2019). Another barrier for service providers is limited engagement by employers, which led to

them relying on connections with small-to-medium firms that were more open to hiring

refugees, thus losing out on opportunities that could be provided by larger corporations

(Nardon et al., 2020).

AI in Recruitment

One potential avenue to enhance the effectiveness for employment service

agencies is through the integration of artificial intelligence (AI) tools. AI has already made

significant inroads into numerous Human Resource (HR) processes by employers, such as

standardization of the recruitment process, catalyzing a paradigm shift in employment

strategies (Miller, 2018). AI is being widely incorporated by recruiters for job searches,

screening candidates, and post-screening assessments but there are challenges due to biases in these decision-making systems (Chen, 2022).

Refugee employment agencies could similarly incorporate AI into their services, which could serve multiple purposes: maintaining competitiveness with employers, mitigating potential challenges arising from AI-infused recruitment processes, and reducing the burden of high client workloads from counsellors. For example, AI is increasingly being used by recruiters to identify candidate's barriers in language (Mirji, 2021), which could potentially exacerbate challenges faced by refugee candidates in language proficiency improvement stages. Settlement agencies could also take advantage of how employers are using AI to computerize monotonous daily tasks of HR management (Fraij & László, 2021) and to conduct interviews (Lee et al., 2021), thereby freeing up counselors to dedicate more personalized attention to client needs.

One paper concluded that mobile applications aided by AI boosted immigrants' societal integration and health status (Drydakis, 2021). Despite the suggested benefits of using AI, it is important to consider human rights impacts on vulnerable groups like refugees to ensure that AI technology does not infringe on their rights of privacy and protection, or increase discrimination through biases in algorithms (Akhmetova & Harris, 2021). In light of these developments, this study aims to investigate the potential opportunities and challenges of AI in enhancing the effectiveness of Canadian settlement agencies to facilitate refugees obtaining employment commensurate with their qualifications.

Methodology

A qualitative research design framework was chosen for this study, aiming to gather data about knowledge and perceptions from employees of settlement agencies based on their work experiences. Insight from those affected by or holding influence towards organizational AI adoption would allow us to identify opportunities and barriers for integration. A rigorous and systematic inductive thematic analysis was used to provide a rich and complex account of the data through examining similarities and differences in the perspectives of various participants (Nowell et al., 2017).

Recruitment

A combination of purposive and snowball sampling approaches was used to recruit participants in this study. To be included, participants had to be working at a Canadian settlement agency that provides employment services to refugee clients and be over the age of 18 years. Emails and phone numbers available on the general contact page of settlement organization's websites were used to contact settlement agencies serving refugees across Canada. Then, information letters outlining the study details were shared with them on email, with the request for their agency to participate in this study. After gaining approval from their administration, they were asked to internally request participation from client-facing counsellors, program managers, and I.T. experts for interviews. If they agreed, the organization's contact would provide the researcher the participant's direct email address to send them details of the study and consent form.

In total, five settlement agencies were recruited, of which three serve in Ontario, one in British Columbia (B.C.), and one on a national and international scale. Across these agencies, there were 13 total participants, including seven program managers, five client-facing counsellors, and one I.T. expert. One participant whose role was a manger was also a client-facing counsellor and expert involved in application of technology. Many managers also stated they had previous experience working as client-facing counsellors. Figure 1 shows the breakdown of participants by role and location.
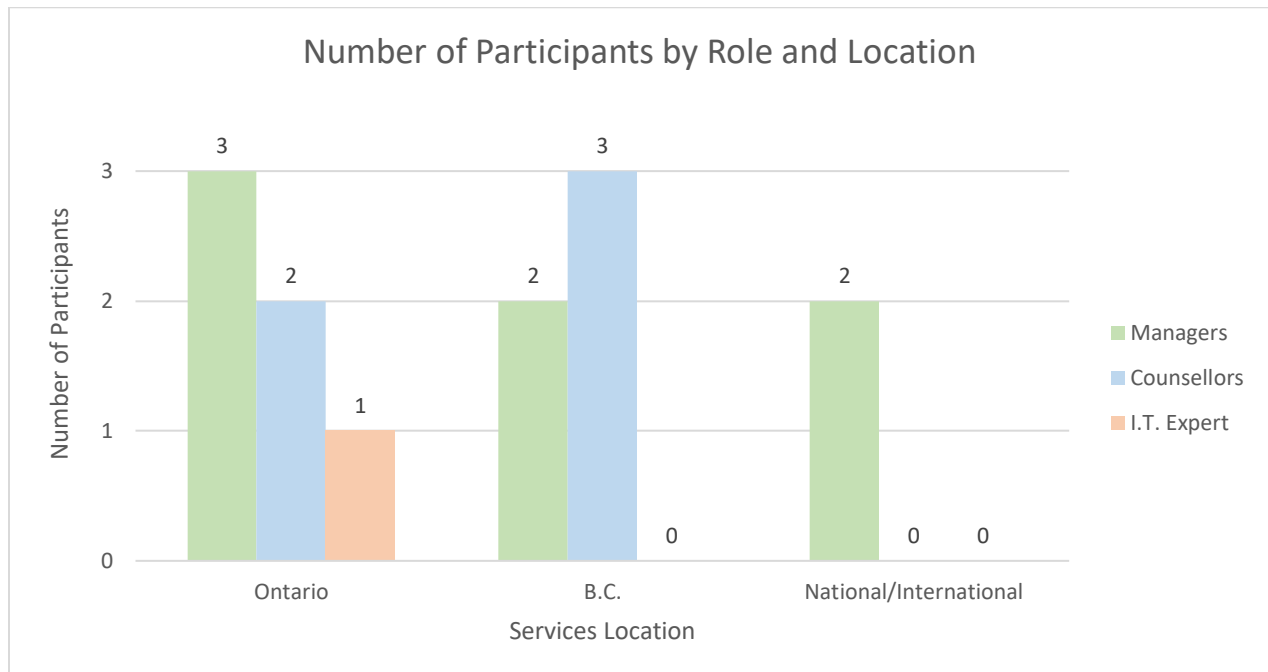
Figure 1*: Bar Chart to Show Participants by Role and Location (n=13)*

Approval from the McMaster University Research Ethics Board was obtained before recruitment and interviews began. During the recruitment phase, all participants were assured confidentiality and measures to protect data privacy. All participants gave informed consent before the interviews. No personal identifiers were used in this study.

Interviews

One-time, in-depth semi-structured interviews were conducted with participants in July 2024. All interviews were conducted virtually using Microsoft Teams video conferencing tools. The interviews were video recorded, some participants chose to turn off their camera during recording, and Microsoft's auto-transcription tool was used to automatically generate transcripts of all interviews. The transcriptions were later revised manually to fix discrepancy between the recording and auto-generated transcript. The interviews lasted between 25 minutes to 2 hours.

Interviews were focused on understanding a settlement worker's role within the organization, the types of services they provide to clients, areas of improvement in their role, their knowledge and understanding of AI, and their perceptions towards AI integration in settlement services. By way of their role, regional managers provided more insight on higher-level systemic opportunities and barriers for AI integration into their agencies, while the I.T. expert shared what type of data is collected, how the internal database infrastructure is configured, and barriers to adopting new technology.

Interview data was analyzed using an inductive thematic approach. First, a set of codes were developed based on the first few transcripts and then revised with more codes added as additional interviews were conducted to create a coding framework. Data collection and analysis followed an iterative process. Then, based on findings within and across codes, we created overarching themes to distill findings relevant to the research question. The Delve software tool (Ho & Limpaecher, 2024) for qualitative data analysis was used to highlight texts into codes and organize into themes.

Results

Settlement Agencies Context and Challenges

In the initial parts of the interview discussions, participants provided context regarding challenges they face in their roles. Counsellors mentioned having large caseloads, being limited on time, and having an increasing influx of clients; making it more difficult to manage their work effectively. They said they wished to have more time dedicated for one-on-one meetings with clients to improve their quality of services and for follow-ups regarding feedback on job satisfaction or services they were provided. Managers mentioned they try to support counsellors in not getting "burnt out". They also wanted more funding to hire more staff, balance caseloads, and provide additional or improved services. A few counsellors mentioned that they did not receive formal training and felt less prepared to help clients. Participants reported their organizations sometimes invite external HR experts to support employment workshops or resources.

When asked what information was collected in the database for funders, it was revealed that government funding agencies primarily mandate reporting metrics such as the number of people served or types of services provided, but not quality of employment. While some Ontario organizations independently record current versus intended employment to showcase success stories for additional funding or for internal program assessment, this is not universally practiced. The B.C. program conducts multiple follow-ups, up to one year post-employment but focuses on employment status rather than alignment with qualifications. Participants noted that achieving full-time employment, even if it is a "survivor job" and not their career goal, can render clients ineligible or deprioritized for certain employment services. This was attributed to

barriers like the competitive labor market, the time and cost of credential evaluation, or the

lack of Canadian work experience, thus counsellors would resort to focusing on survivor jobs.

    With regards to AI adoption and integration, findings revealed three main themes:

perceptions of AI, barriers to adoption with mitigation strategies, and applications of AI. Figure

2 presents these themes with their correlating subthemes in a flow chart.
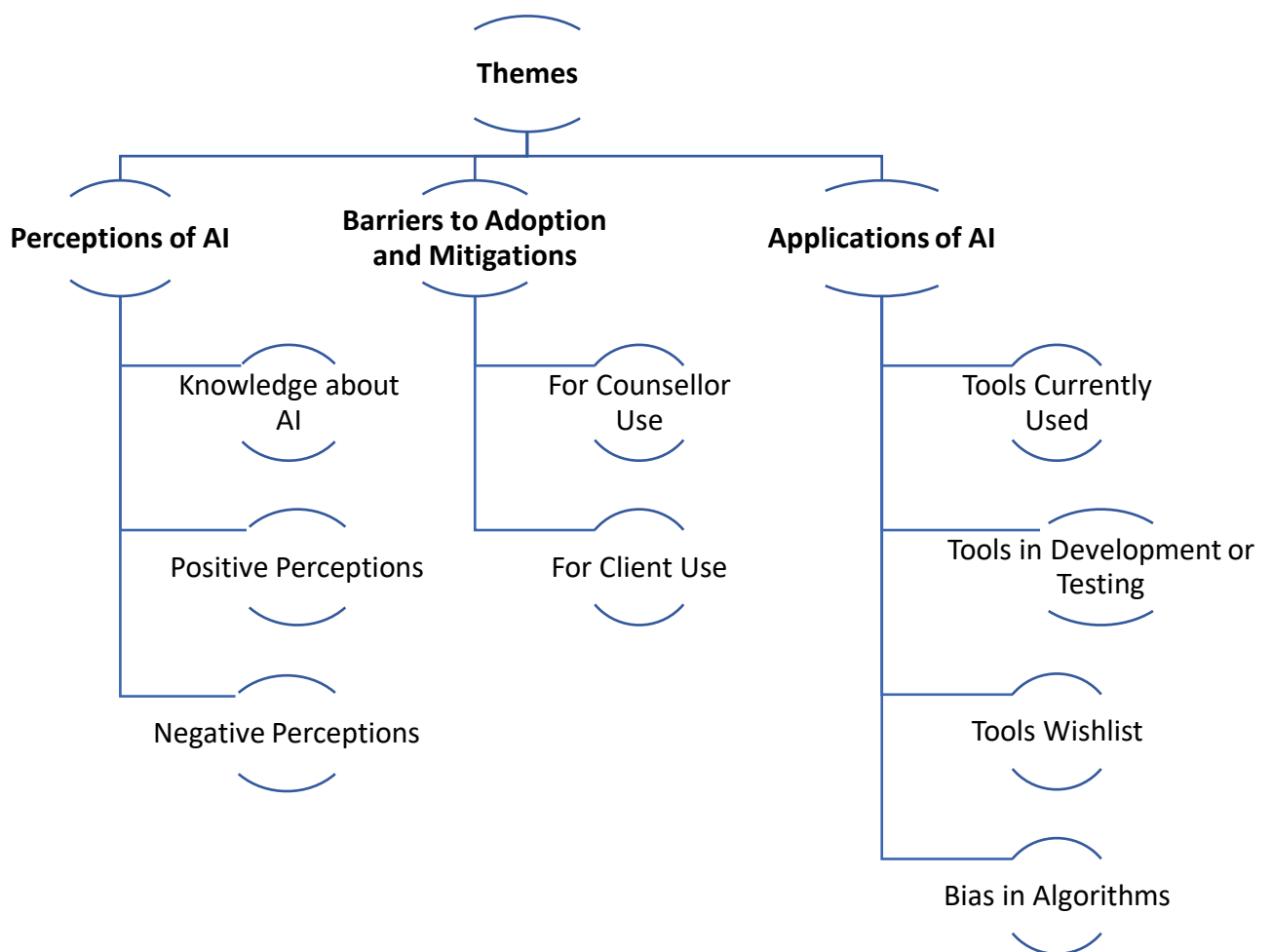
Figure 2: *Flow Chart of Themes and Sub-themes in Qualitative Analysis*

Perceptions of AI

A significant part of the discussion with participants was regarding their perceptions about the field of AI. This included their understanding of what AI is, how they felt about it being integrated into their role, and what concerns they might have.

    a.   **Knowledge about AI**

The majority of participants stated that they did not know how AI tools were developed and their general comprehension of AI was limited. Many used phrases like "I don't know", "not much", or "basic" when asked what their knowledge of AI was. Most of them said the extent of their understanding was from a user perspective, mostly of ChatGPT. A few were slightly more confident in their grasp of AI and used descriptive words like "automation", "robotics", "programming", or "computer assistant".

    b.   **Positive Perceptions of AI**

Most participants had positive and optimistic perceptions about AI. Many had expressed they "love exploring new technologies and tools". Those who had used AI before said they found them to be "very helpful" because it saved them time and improved the quality of their work. One participant said, "I just asked ChatGPT to do [proofreading] because I didn't have that time and it did a good job … and saved my time" (Manager 3). Some participants also displayed confidence in the capabilities of AI tools with statements like it "knows everything" or is "very smart". A few mentioned that they even encourage their colleagues and clients to use AI tools like ChatGPT.

Participants largely believed that AI can support their work by "improving our ways of doing things more effectively and efficiently" (Manager 6). Participants also mentioned being more comfortable with and excited about using AI once they learned about the tools' capabilities or after they started using them. One participant said when speaking about ChatGPT,

> "I was so against it. … I'm sitting there for hours and hours writing these reports and then somebody was walked in … literally copy and pasted it in two seconds and it was just done, and it was great… this has cut down so much of my time. … It's just a matter of us … trying it one time and then understanding it" (Manager 2).

A couple of participants believed that AI integration will be inevitable and as they embrace the change, they would want to be ready for adoption by having knowledge about it. One mentioned, "we need to be prepared for that. I don't know where to start" (Counsellor 1).

c. Negative Perceptions and Limitations of AI

There were some concerns about the ethical use of AI and its technical limitations. Nearly all participants mentioned the risks involved in AI, including data privacy, non-consensual data usage, and data breach. They were worried and uncertain whether putting in client data as a prompt into the AI tool may be "put on the Cloud", made accessible to others, or used without their consent. The majority of participants mentioned that their organization does not have policies or guidelines for AI usage. A few said their organization was in the process of developing these policies. Some said informal conversations in team meetings or with managers raised awareness about protecting client data. Nevertheless, all participants that

mentioned using AI said they were careful to anonymize the data and remove any personal

client information from the input to the tool. Although not restricted through policy, some said

it was "common sense" to exercise this level of caution with AI. One participant also highlighted

that many refugees have escaped unsafe areas, fear for their family's safety, and want to keep

their privacy and identity hidden, which AI tools with weak privacy protection could threaten.

"Some people changed their names. Some people changed their personalities and are

not able to contact their family ever again… I think those kinds of people will not feel

comfortable to participate [in using AI tools]" (Counsellor 5).

Another skepticism with adoption was accuracy of AI-generated results. Participants

were hesitant to adopt tools unless it had been proven to save time and be competent. One

participant believed that AI may not have human intuition, judgement of behaviour, and

"cannot capture…soft skills" (Manager 6). Another was concerned with capacity of tools being

built on limited data, saying that "a computer will not be able to answer [a question] because

you've not trained it to answer those sorts of questions" (Manager 3). One participant also

highlighted that AI is rapidly evolving, so they were uncertain whether their organization should

wait for better technologies to emerge.

Another common concern was authenticity of using AI tools; how it may be more

difficult to recognize whether work was done by AI or by a person. One participant mentioned

their fear of not knowing what is real or what is AI, such as when speaking to a person virtually

and questioning whether it is really the person. However, many participants pointed out that

some AI tools' abilities are limited by the results being too obviously AI-generated. For example,

they stated that they can detect that an email or resume content may be written by ChatGPT

through the language phrasing and that hiring managers will disqualify candidates if their resume or cover letter looks AI-generated. Therefore, they tended to change some of the wording after getting results from AI, so that it is more personalized and sounds like them.

Two counsellors from two different organizations mentioned that they fear the possibility of AI replacing their job. One said that it is more likely to replace jobs that mostly comprise of administrative tasks, but it would depend on decisions made by leadership of their organization or government policy in AI adoption. However, the majority of the study sample said they were not concerned about AI replacing them because their role requires human-to-human personal connection, which they believe technology cannot do. Counsellors described that their role not only includes technical support like building resumes, but also providing emotional support to refugee clients.

"A human always needs a human, somebody to trust, to feel, to get support from, to get some motivation and courage …. There are a lot of people who don't have family, who don't have support, are just lonely in the country, and … they just need somebody to talk to. They may not need all these services that we are giving but they just need somebody who will tell them 'I'm here for you'. A robot cannot do that" (Counsellor 5).

They believed this to be a limitation of technology's abilities. In addition, some counsellors highlighted the need for face-to-face interactions to determine what services a client may be eligible for. For example, they may come to their organization seeking help on their resume but initial assessments and building rapport with counsellors would reveal that they also need other types of support like mental health or social services.

Although most participants believed AI cannot replace the role of building trust and rapport with clients, one participant said that AI may be able to bypass the need for it. They agreed that clients may be hesitant to share vulnerabilities before building trust, however, they feel that perhaps clients would be more easily able to request that support from technology instead. They mentioned that in "some cultures, it's really hard to admit that I have those kinds of barriers" (Manager 5). Instead of overcoming feelings of shame or embarrassment through connections with counsellors, it may be easier to communicate their needs more directly with AI instead of humans.

Some participants highlighted potential limitations for newcomer clients, such as whether AI tools could understand different accents, be multilingual, or interpret different cultures or communication styles. One participant suggested that the tools may need to be limited to counsellor use: "I don't think our clients are in a stage in their lives where they understand what AI can do and how we're using it to help them. So, we [could] keep it on our end, … do the job and present them with the findings" (Manager 7).

Potential Barriers to Adoption of AI and Mitigation Strategies

a. Barriers and Mitigation Strategies for AI Use by Counsellors

The most common barrier mentioned for counsellor use was the time it may take to learn how to use AI tools. They mentioned how they are already burdened with high caseloads so it may be a challenge to set aside time to learn new tools, especially if tools are not user-friendly, and do not want to spend their personal time on it. A few mentioned that this could be mitigated with accessible trainings that are integrated into their work schedule. One participant

anticipated that if the new tools are too difficult to learn or adopted too quickly, there is risk of frustration or reduced motivation in the workplace. They suggested adopting tools one by one, giving time to learn and transition operational processes.

Another barrier mentioned by majority of participants was around organizational culture where there may be hesitancy to change. The participants themselves said they would be excited to adopt new technology but some of their team members would not be eager if they do not see the value in it or are not "tech savvy", especially older colleagues. They said the solution to changing this mindset would be demonstrations of how the tool can save time or effectively help clients. Trainings were again described as mitigation. One participant said that by sharing this information, "the more they will understand, more they will appreciate the changes, and they will not be afraid from other changes too" (Counsellor 5).

Many participants were concerned about the potentially high cost of these tools. Organizational funding schemes are determined by government agencies that allocate funding for specific programs and targets to reach, such as number of clients served. Therefore, organizations would need approval from funders before investing in these tools. Managers also wanted to be certain that if they remove part of their funding from client services to use it for access to technology, it would be worth the investment for quality of service and efficiency.

b. **Barriers and Mitigation Strategies for AI Use by Clients**

Participants were asked what barriers they believe might be present for having refugee clients use AI tools provided by the organization. Most respondents said that the refugee population has a wide range of skillsets and many would be able to adopt AI technology quickly.

However, some clients may struggle due to low digital literacy. They mentioned that a few

clients find difficulty in using a laptop, so learning advanced technology may be difficult. Some

participants mentioned that younger clients may be able to learn quicker, whereas seniors

might struggle more. A mitigation suggested for this was to have clients attend the basic

computer skills training first that some agencies already provide, and then have another

advanced class created for the AI tools.

To facilitate shortcoming in English language proficiency that could hinder usage of AI,

participants suggested using tools that are multilingual. Speech-to-text capabilities available in

languages common among the refugee population would also be useful for those with reading

and writing limitations.

Another commonly mentioned challenge was access to technology, as some refugee

clients do not have a computer at home. If clients were provided access on an online platform

designed for use on their own devices, this could put some people at a disadvantage. One

participant suggested accessing computers at a local library. Another suggestion was a

computer lab at settlement agencies that clients could use to access the AI tools. However,

intersecting childcare and transportation issues may prevent them from using these facilities.

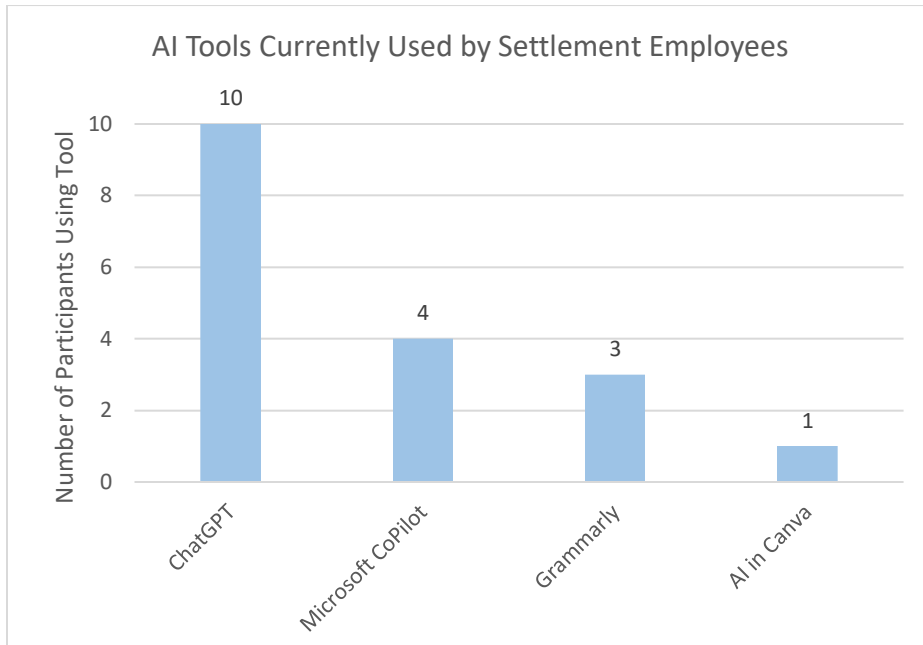Participants also noted that agencies may not have space for a computer lab.

Applications of AI

Another part of the interviews was discussing the role of AI tools in settlement agencies.

Some participants mentioned tools they are currently using, those in development or testing

phases, and tools they would want to have. Another subtheme presented is potential discrimination or bias that could be present in new AI algorithms built using refugee data.

a. **AI Tools Currently in Use**

Figure 3 shows the number of participants that mentioned using AI tools for their work. The most mentioned AI tool was ChatGPT, spanning across four out of the five settlement agencies interviewed. Many mentioned their organization is "not officially" using it, it is not formally "encouraged", but it is the user's choice whether they want to use it. Many noted they mostly use it to improve grammar or phrasing in their already written work and find it helpful in creating a list of resources. Other uses include helping clients write cover letters and build or improve resumes. This included asking ChatGPT to identify keywords from a job description or asking it to compare an anonymized resume with the job description to see how well it matches. Participants also used ChatGPT to brainstorm questions for mock interviews with clients. They would fact-check some of the information provided by ChatGPT like resources, apply their judgement to the results to decide whether to use them or not, and would alter the output to make it more personalized if needed. A few participants also mentioned using Microsoft CoPilot to transcribe and take notes for meetings.

AI Tools Currently Used by Settlement Employees

Figure content:

Number of Participants Using Tool (y-axis, 0 to 10)

- ChatGPT: 10
- Microsoft CoPilot: 4
- Grammarly: 3
- AI in Canva: 1

Figure 3: *Number of Participants Using Each AI Tool*

b. AI Tools in Development or Testing

Two out of the five organizations were in the development or testing phase of adopting new AI tools. Both had mentioned that these programs were not funded by the government.

One was testing an AI tool that would check how well keywords from a resume match to the job description. They decided not to continue with its adoption as it was not clear whether the resume or profile data would be used in the machine learning algorithm. It was also unclear what types of biases were in the tool, such as language barriers or favoring Canadian qualifications like education degrees and work references. The clients for these organizations have international experiences and are not native-English speakers, so the participant wanted to ensure that they would not put their clients at a disadvantage. They said, "we are trying to be fair with all of our clients" (Manager 5). This same organization is also exploring the use of a chatbot on the website for customer service inquiries.

In addition, this organization is developing their own AI tool with support from a third party software developer, but not using internal data. It is currently in its pilot phase, but the objective is for clients to directly use it for mock interviews and get feedback on their responses. It is built on the hypothesis that some clients come from a culture where asking for help can be uncomfortable, so it may be easier to interact with technology to share their needs. This hypothesis is still being tested and the tool will first be launched to the internal team to get feedback before using it with clients, who will be self-trained through videos. Some key performance indicators (KPIs) used to decide on adoption include rates for hiring and interview successes, time saved or number of interview sessions reduced per team member, number of clients served for interview preparations, and a cost-benefit analysis.

The second organization is testing two AI tools, including a chatbot for their website. The other tool is called Bodyswaps (Mallet, 2020), which uses AI simulation in virtual reality headsets to train on soft skills like communication. This is also currently in testing phase with internal managers to get feedback on the tool before launching it for use with clients. The initial impression was that it is interesting and may be very helpful for newcomers to practice casual communication skills in the workplace or for mock interviews. Another advantage is to allow clients to continuously practice without being limited by a counsellor's scheduled time. One criticism of the tool the participant mentioned was it may lack understanding of how people talk in different cultures.

c. AI Tools Wishlist

Participants were asked about AI tools they were familiar with and might consider integrating into their employment services. For those unaware of such tools, potential options in the market were introduced. This open-ended discussion aimed to gauge their enthusiasm, and Figure 4 presents a ranked list of services from most to least mentioned as areas of interest for AI tool adoption.
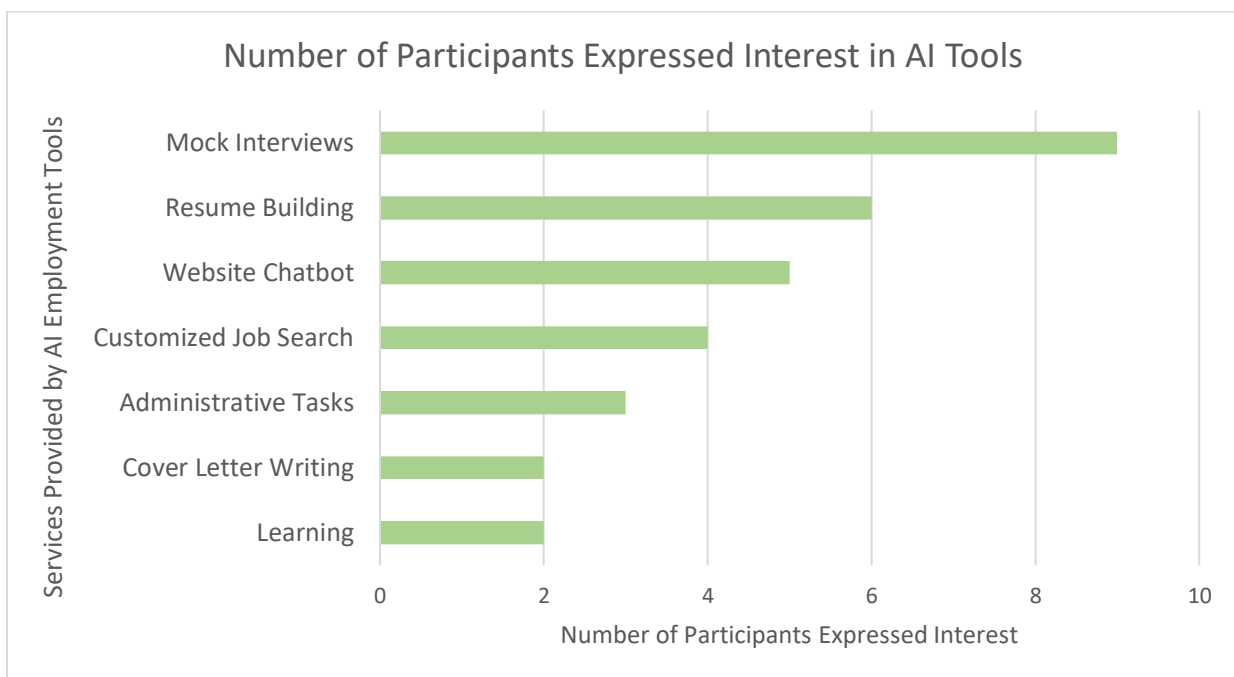
Figure 4: *Number of Participants Expressed Interest in AI Employment Tools*

An AI tool that would conduct mock interviews with clients and provide feedback was one that the majority of participants showed interest in. They mentioned that mock interviews are time consuming, and they are limited on the number of clients they can help. While time efficient, counsellors reiterated that it is important for the tool to provide feedback on the phrasing of the user's professional responses, their confidence and integrity, and how approachable they seem.

The next tool that was often mentioned is resume building or assessing how well a resume matches with keywords in the job description. Participants had mixed feelings about such a tool. Although participants felt it could save them time, based on experiences with ChatGPT they would still need to revise results produced by AI because it sounded too "robotic" or needed to be personalized to the client.

Some participants said a chatbot on the website to find information or answer frequently asked questions could save time as well. However, one participant said they would still want a real person to answer support questions in addition to the automated bot. Another barrier was that clients find their organization's services from different avenues like social media, not just the website, so it might reduce workload but not eliminate all requests for information. One participant also highlighted it would be helpful to have the chatbot available in different languages or to allow the client to input their preferred language so it can direct them to the right resources.

Another service that counsellors spend a lot of time on is job searching. Some participants mentioned that tools that customize a job search to the client's resume, qualifications, or salary expectations would be beneficial. Another tool mentioned would be to create a list of potential employers that are hiring, which the client may be interested in based on specified services or skillsets. Gathering resources into one place without having to navigate various online sources was the objective of these desired tools.

Other potential AI tools to alleviate workload were for automating administrative tasks like communication announcements, workshop bookings, and making case notes. Tools to help

write cover letters and assist with learning like English language classes were also brought up as potentially beneficial.

d. Bias in AI Algorithms Using Refugee Data

As new AI tools emerge in markets, there is risk of algorithmic biases. Participants were asked what types of discrimination or biases they would be concerned about if an AI tool were developed based on refugee data. A common response to this question was that the refugee population has a wide range of education, English language proficiency, and qualifications. Therefore, there would be a risk of profiling based on stigma and negative stereotypes of having the "refugee" label, such as not being well-cultured for an employer.

"Every refugee community is so different… They each have their own kind of unique needs, hurdles, barriers, and racism attached to it… I just don't know how they would be able to take information and make one blanket approach to it" (Manager 2).

Participants also mentioned socioeconomic or racial biases, such as whether algorithms may favor "rich, white people". Some were also concerned about political bias attached to refugees. Many mentioned how government policies, media narratives, and funding approaches were very different when it came to Ukrainians under the refugee label compared to other refugees of color. Some described Ukrainian refugees having more privileges and resources allocated for than people from other conflicts. They were worried whether these biases would be perpetuated into algorithms designed with refugee data.

Discussion

The objective of this study was to explore opportunities and challenges Canadian settlement agencies face in integrating AI to enhance effectiveness of refugee clients obtaining employment commensurate with their qualifications. Although participants admitted having limited knowledge about AI, they were generally optimistic around AI being helpful, effective, and timesaving but were skeptical about data privacy protection, accuracy of AI-generated results, and capabilities of the software to understand different accents or communication styles. Potential barriers for adoption include allocating funds and time to train on the tools, mindset of employees resistant to change, and digital literacy, language barriers, or access to technology for some refugee clients. Most participants are already using ChatGPT, two of the five organizations are in the process of testing other AI tools, and many want to adopt employment AI tools to improve their services.

Given the participants' limited knowledge of AI and their enthusiasm to expand their understanding, Table 1 provides a list of AI tools that could enhance their employment services, serving as initial examples for market exploration.

Table 1: Examples of AI Tools for Services Provided by Settlement Agencies

Service	Tools	Description
Mock Interviews	VMock's SMART Pitch, Big Interview, Hiration	Mock interviews are conducted with video and audio recordings, practice questions are either from a question bank or AI-generated based on job role or description, and feedback is provided on speech, posture, body language, and content of the response.
	Google's Interview Warmup, Interviewsby.ai	Users respond to practice interview questions through audio or text only. Interview Warmup uses questions from industry experts and uses AI to provide insight into the response such as job-related terms, most-used words, and talking points. Interviewsby.ai generates questions from the job description and provides feedback on the response based on the 'STAR' method.
Resume Building	Hiration, Enhancv, Kickresume, Rezi, NovoResume, VisualCV,	These tools provide customizable resume templates and use AI to check if the resume can pass recruiter Applicant Tracking System (ATS) screening, compare resume to how well it matches the job description, provide suggestions for improvements, and content writing support.
Chatbot	HubSpot Chatbot, Intercom, Landbot.io	These vendors allow organizations to build and deploy a customized chatbot for 24/7 automated customer service questions.
Job Search	LinkedIn, Jobscan, Vmock's SMART Wall	Many job search platforms use AI to match candidate profiles with job descriptions to present a customized list of opportunities for the job seeker.
Administrative Efficiency	Microsoft's CoPilot, Jasper Motion	AI administrative assistants like these tools can help improve efficiency of writing, taking meeting notes, content generation, and boosting productivity through optimizing schedules.

Disclaimer: These tools are only examples and not intended as recommendations for adoption. The author suggests consulting a technology adoption expert for professional advice on market research and best fit for your organization.

Findings suggest that integrating AI tools into settlement agencies for employment services can have many benefits. Employees of settlement agencies experience staff shortages, limited funding, and high caseloads for counsellors, leading to untailored employment support (Senthanar et al., 2019). AI tools may alleviate some of this burden by improving efficiency. Previous studies suggest that AI can help jobseekers save a lot of time, improve the quality of their CV, and save costs in employment services (Broecke, 2023). This would allow counsellors to spend more one-on-one quality time with clients to provide customized support. Many counsellors also wished for more time to track clients' progress and employment satisfaction. By saving time, AI tools can enable counsellors to conduct more follow-ups, thereby enhancing their ability to support clients in achieving their individual career goals.

In addition, making AI tools accessible on-demand for clients to use directly would allow them to receive employment services and become more self-sufficient, even when counsellors are occupied with other clients. For example, clients can practice mock interviews on their own and as many times as they wish without waiting for an appointment with a counsellor or being limited by duration of the appointment. One study of job applicants using an AI interview platform said they believed it was more efficient to save cost and time and better in procedural fairness than traditional interviews (Kim & Heo, 2021).

Furthermore, AI that incorporates HR expertise within its data-based algorithms can improve the technical quality of services provided to clients. Counsellors reported not receiving formal training for their role, feeling unprepared to help a diverse set of clients, and organizations also hire external HR experts for workshops or creating resources. AI tools incorporate large data-driven decision making models that include insights into job market

trends, in-demand skills, and employer expectations. AI can identify gaps in candidates' profiles that employers are seeking and advise on skills training and employment pathways to improve their sustainable employability (Urquidi & Ortega, 2020). As a result, employment services can be improved through direct access to HR expertise within AI algorithms and bridge the gap for lack of training.

AI may also address the criticism of settlement agencies prioritizing "job-ready" economic immigrants over refugee clients (Senthanar et al., 2019). Having standardized tools available for all clients through a uniform framework for service delivery can mitigate discrepancies in treatment and promote fairness, making it less likely that one type of client will be prioritized over another. Studies suggest that AI allows for systematic assessment about jobseekers' labour market integration pathway, which may mitigate bias or discrimination in decision-making across caseworkers and potentially improve fairness (Brioscú et al., 2024).

Given that settlement agencies are limited on funding, deciding which AI tools to invest in would require a cost-benefit analysis. Some tools provide users limited services for free, but additional capital to access full features may be required. It is also important to consider that AI vendors advertise their tools to have alleged benefits of efficiency and while HR professionals and job candidates agree, there do not appear to be any independent experiments that compare outcomes with and without AI (Broecke, 2023). Therefore, organizations should determine this analysis based on KPIs, such as client hiring rates and time saved for counsellors.

Findings of this study also reveal the criticality of evaluating tools for biases before continuing with adoption. There is a risk of employment tools using data that includes human bias in decision making, which is then further perpetuated with the machine learning algorithm.

For example, Amazon discontinued its AI resume screening tool in 2015 after realizing that it gave preference to male candidates over females by penalizing the word "women", as it was built on male-dominated data (Dastin, 2018). Another tool called HireVue was criticized for penalizing non-native speakers as candidates, due to difficulties in understanding their accents (Harwell, 2022). Another study calculated the percentage of interview call-backs (showing employer's interest) that native whites received compared to non-whites in western countries to highlight hiring discrimination (Quillian et al., 2019). Canada showed 44% additional call-backs of white candidates compared to their non-white counterparts and the United States showed 33% (Albaroudi et al., 2024). If data consisting of this hiring discrimination was used to create AI algorithms of employment tools, it can have risk of perpetuating these biases for immigrant workers and by sex/gender, language, and international qualifications. If settlement agencies are developing employment tools themselves, they should consider practicing algorithmic bias mitigations.

As counsellors will be using these AI tools, it is important to include them in the testing phase to gather their feedback on user-friendliness, effectiveness of results, and whether it improves efficiency to reduce their workload. Counsellors would also highly benefit from formal trainings on the tools. Many had mentioned they had limited knowledge about AI, and it is possible that this contributes to their concerns such as data privacy or technological limitations. Trainings about what AI is, how the algorithms are built, privacy protection policies from the vendor, and how to effectively use the tools could help mitigate these concerns. This would promote consistency across the organization on usage and ensure productivity to minimize incorrect use. It is also important for the organization to make these trainings accessible and

integrate them into the user's work schedule. Demonstrations on the benefits of these tools like saving time for counsellors would help change the mindset of workers resistant to change, giving them more incentive to welcome innovation in the workplace.

Investing in training resources will also be required if the tools are made available to clients. Multilingual AI tools would encourage inclusiveness for clients with low English language proficiency. Resources may need to include basic computer skills training for clients with lower digital literacy. One study on refugees resettling to Canada showed that 80% owned mobile phones and 70% had reliable access to internet, but ownership of computers or tablets was comparatively low and digital literacy was a barrier that risks excluding the vulnerable from accessing services (Reid, 2021). To promote equitable service delivery, the tools may need to be made accessible at computer labs, local libraries, or shareable devices for clients who do not have a computer at home. Accessibility may also need to be addressed through mitigating social barriers like access to transportation or childcare.

A few participants had shared concerns about AI replacing their job and had varying perspectives on whether it could substitute skills like empathy or intuition. One study theorizes that AI replacement may occur first at the task level through augmentation, then analytical tasks which give service employees more importance for "softer" skills, and eventually capable of performing those intuitive and empathetic tasks as well but enabling innovative human-machine collaboration (Huang & Rust, 2018). Another study on the wider impacts of digitization and AI use in public employment services showed that AI can take over mostly repetitive, routine, and tedious tasks while creating new tasks for staff due to business process changes brought by AI implementation (Brioscú et al., 2024). Therefore, it is important for organizational

leadership to consider operational enhancements and be transparent on how they will ensure employment security to address these transition concerns.

Policy Recommendations

Based on findings in this study and literature review, two policy considerations were identified around AI usage and the deskilling of refugee workers.

All participants reported that there were no formal organizational policies around AI usage, while risks of data privacy and lack of transparency were barriers for adoption. Creating policies and guidelines for AI usage, both newly adopted and existing ones such as ChatGPT, will be key to mitigate security risks of sensitive data, ensure compliance of the organization to legal or regulatory data protection requirements, and establish clear expectations and consequences to hold employees accountable of ethical practices. These specific AI regulations may be added as an extension to existing policies that protect client confidentiality in settlement organizations. Previous studies also argue that law and human rights should be incorporated by all stakeholders, given the inherent challenges of bias and discrimination in AI in the employment field (Alexiadou, 2024). It is imperative for organizations to understand privacy policies before adopting tools from AI vendors, such as those presented in Table 1, and ensure they comply with the set internal policies and guidelines. It will also be important for counsellors and clients to understand these privacy policies as users of the tools.

The results of this study also shed light on why previous research criticized settlement programs of systematically channelling newcomers into survival work (Creese & Wiebe, 2009) and not tracking client progress on the quality of employment obtained (Kosny et al., 2020).

One reason for this outcome is that government funding agencies do not request data from settlement agencies on client job satisfaction or whether their employment aligns with their qualifications, rather they collect metrics on number of clients served or types of services provided. Although not required by funders, some organizations take their own initiative to collect detailed follow up data and use it in requests for more funding. The Canadian government's Settlement Program includes collecting outcome information through client-based surveys and program evaluations (Immigration, Refugees and Citizenship Canada, 2024). However, the lack of outcome metrics directly from the front-end settlement organizations, who have direct access to clients, seems to be a gap in this policy. More funding should be allocated to having settlement agencies collect and report data such as client education and qualifications, employment type intended and obtained, wage, and satisfaction. Regardless of the potential efficiency improvements obtainable by AI adoption, achieving the objective of refugees obtaining employment that matches their qualifications remains challenging without first establishing a method to measure data limitations. A policy shift is essential, wherein funding agencies mandate the collection of additional data from settlement organizations in order to set targets of increasing employment outcomes that match client qualifications, resulting in reduced deskilling of refugees.

Limitations of Study and Future Research Recommendations

This study captured a wide range of knowledge and perspectives from three organizational roles across five settlement agencies. One limitation, however, is possible sampling bias. Volunteers and organizations who agreed to participate may already have had an interest in adopting AI tools, thus the results show the majority had positive perceptions about

AI and were using them. Another limitation is selection bias because although the study had sought to gather data from settlement agencies across Canada, most participants were from Ontario and B.C. Therefore, results may be limited in transferability to other Canadian provinces. Future studies could replicate results while including random sampling of participants across all provinces of Canada.

The study focused on the perspective of settlement workers. Triangulation with refugees, to gain an understanding of their knowledge and perspective of AI usage to facilitate employment integration, should be considered in future research.

Aside from participants giving feedback on their experience using mainstream tools like ChatGPT, results were based on interview questions about hypothetical AI tools that they may be interested in. A future study could have counsellors and clients use AI tools and report their feedback based on hands-on experience.

Finally, the recommendation to integrate AI tools does not incorporate quantitative analysis on how effective certain AI tools are in saving time for counsellors or improving quality of service to clients. Future studies could calculate a cost-benefit analysis of integrating AI tools.

Conclusion

Refugees in Canada face various individual and systemic barriers to attaining employment commensurate with their qualifications leading to deskilled survival jobs. Settlement agencies are at the frontline for providing refugee clients with employment services to help them integrate into the Canadian labour market. However, time constraints, high

caseloads, and funding models can result in poor client experiences. This study found that AI

tools may be a potential solution to increase efficiency and quality of services provided, which

can free up time for counsellors to spend tailored time with clients and track client progress. AI

tools to consider for adoption are for services such as mock interviews, resume building,

customer support chatbots, and customized job searching tools. Accessible trainings for

counsellors and clients will be key to mitigating barriers for adoption, as well as securing

funding, testing the tools for algorithmic bias, ensuring the protection of sensitive client data,

and establishing policies and guidelines for AI usage. Despite AI capabilities of improving

efficiency, a government policy shift is required to address the concern of refugee deskilling and

criticism of settlement practices. If the Canadian government want to actualize their belief that

newcomers are essential in filling labour shortages (Government of Canada, 2023), policies that

create measurable targets on increasing employment outcomes relative to qualifications and

further investment in reducing barriers to meaningful employment will be essential.

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