Impact and Challenges of AI in the Translation Job Market:
A Reflective Case Study

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Abstract
Reflecting on prior research on the output of translation programs in Yemen and labor market needs, this study examines the impact of AI on translation services in the context of Yemen. Using a mixed-methods descriptive approach, the study combines quantitative and qualitative insights from interviews with 11 professional translators. Findings show that although AI offers efficiency and reduces the cost of service, its overall impact on the translation market remains limited. The study also reveals that AI tools like Google Translate and ChatGPT are being used to streamline workflows and reduce workload. Most respondents reported reduced workload and improved efficiency, yet adoption is uneven and largely task-specific. Cultural sensitivity, dialect accuracy, and ethical concerns emerged as major limitations, reinforcing the need for human oversight. The participants anticipate long-term effects, with some fearing job loss and rate compression while others see opportunities in specialized services. Essential skills identified include post-editing AI output, cultural localization, and AI tool proficiency. The study concludes that sustainable integration of AI requires human-in-the-loop workflows and training to align with global trends while preserving cultural and linguistic integrity. Recommendations include upskilling, ethical governance, and resource development to strengthen market resilience in an AI-driven era.

Keywords: translation, job market, Artificial intelligence (AI), human translation

Introduction

It is obvious that Artificial intelligence (AI) has affected the job market globally. It is transforming all professions, including the field of translation. AI-powered tools, once considered supplementary, are now becoming central to language learning and translation worldwide (Al-Batineh & Al Tenaijy, 2024; Mohammed et al., 2025). Their rapid development has introduced new challenges for translation service providers and academic institutions offering translation programs (Alshargabi & Al-Mekhlafi, 2019; Al-Khulaidi & Alzokhaimy, 2022). These tools promise faster, more efficient workflows than traditional human translation, sparking debates about their long-term impact (Sahari et al., 2023). At the same time, they, arguably, disrupt the job market and reduce opportunities for human translators.

In recent years, AI has transformed translation practices, offering unprecedented speed and scalability while posing significant challenges to professional standards and translator roles (Alharbi, 2024; Bakarić, 2025; Shahmerdanova, 2025). Recent studies underscore the tension between technological innovation and professional adaptation in the translation industry. In the Arab world, research emphasizes the urgent need for translator training programs to keep pace with rapid technological change (Al-Batineh & Al Tenaijy, 2024; Sahari et al., 2023), while surveys of the Yemeni market reveal persistent gaps in competencies and infrastructure that hinder effective integration of AI tools (Alshargabi & Al-Mekhlafi, 2019). Globally, scholars argue that AI should be regarded as an assistive resource rather than a full replacement for human translators, given its limitations in cultural sensitivity, dialect accuracy, and ethical considerations (Constantin et al., 2024; Mahdi & Sahari, 2024; Taşkın et al., 2025).

Local research reinforces these concerns. For instance, Alqohfa and Sanad (2025) found that AI tools fail to accurately translate idiomatic and culturally embedded expressions, highlighting the need for human oversight. Mohammed et al. (2025) examined emerging AI tools such as DeepSeek and Grok in education, noting their potential benefits but also ethical and accuracy challenges. Studies on Yemeni universities reveal structural gaps: Al-Khulaidi and Alzokhaimy (2022) documented a mismatch between translation program outputs and labor market needs, while Shamsan and A-Quheit (2022) identified persistent interference issues in Arabic–English translation education. These findings underscore the necessity of curriculum renewal, practical AI integration, and human-in-the-loop workflows to maintain quality and cultural sensitivity.

This study aims to enhance the quality of translation and strengthen Yemen's translation market, respond to challenges posed by AI integration, and develop new opportunities facilitated by emerging technologies. Departing from previous studies on Yemeni translation market needs (Al-Khulaidi & Alzokhaimy, 2022; Alshargabi & Al-Mekhlafi, 2019, this study investigates how AI-driven translation tools are reshaping the translation job market. The focus is on translators' perceptions of workflow changes, economic impact, and the skills required to remain competitive in an AI-driven era.

Research Questions
1. To what extent do professional translators adopt AI tools in Yemen?
2. How do these AI tools influence their workflow?
3. What limitations and skill requirements shape translators' ability to adapt to AI-driven changes in Yemen's market?

Literature Review

The translation field has evolved from early conceptions of machine translation (MT) to contemporary AI-augmented ecosystems. MT moved from a theoretical aspiration to practical systems that handle technical and administrative genres rather than literary nuance (Hutchins, 1995). Recent handbooks and edited volumes map how contemporary AI,

spanning neural machine translation (NMT) and large language models (LLMs), is reshaping processes, roles, and value chains across the profession, with an emphasis on integrating human and machine intelligence rather than privileging one over the other (Constantin et al., 2024; Walter & Agnetta, 2025). This literature establishes the trajectory from MT's functional aims to today's more holistic, workflow-centered view of AI in professional translation.

A central thread concerns the competencies translators need to remain effective in AI-rich environments (Sahari et al., 2023). A content-analytic perspective identifies both linguistic and non-linguistic competencies (e.g., post-editing, data literacy, ethics, and domain knowledge) as critical for employability and quality assurance in NMT settings (Alharbi, 2024). Complementing this, work on redesigning translator roles foregrounds hybrid skillsets that blend linguistic expertise with tool mastery, quality management, and client-facing consulting (Constantin et al., 2024). Studies of translator education also highlight affective and career-development dimensions—such as anxiety about AI, career awareness, and identity—that influence students' readiness to engage with AI-enabled workflows (Taşkın et al., 2025). Together, these studies indicate that successful adaptation requires curricular renewal that integrates technical, ethical, and socio-professional competencies.

Regional evidence reinforces the case for targeted training. A cross-regional investigation in the Arab world shows that translator training programs and the translation market are adjusting to technological change but still need systematic alignment between curricular outcomes and market requirements (Al-Batineh & Al Tenaijy, 2024; Sahari et al., 2023). In Yemen, a survey of the translation market documents gaps in competencies, infrastructure, and industry-academia coordination, suggesting that universities and training providers must update offerings to reflect current toolchains and workplace expectations (Alshargabi & Al-Mekhlafi, 2019). These regional insights converge on the need for structured, hands-on training in NMT post-editing, project platform management, terminology, and knowledge management, as well as ethics.

Adoption, Attitudes, and Human

Beyond skills, adoption hinges on translators' attitudes, critical thinking, and effective responses. Evidence from neighboring contexts indicates that translators' critical-thinking dispositions and attitudes—together with anxiety—shape their willingness to adopt AI in practice (Mahdi & Sahari, 2024). Systematic reviews similarly position AI as a tool whose effectiveness depends on thoughtful integration, governance, and human oversight—rather than a wholesale replacement for professional expertise (Ssemugabi, 2025). Conceptually aligned contributions argue for reframing AI as assistive and complementary, given persistent limitations in cultural sensitivity, dialect handling, and ethical risk management (Constantin et al., 2024; Shahmerdanova, 2025). This corpus supports a "human-in-the-loop" paradigm emphasizing post-editing competence, risk awareness, and reflective judgment.

A growing body of work examines how AI is reshaping labor markets, services, and professional identities. Studies discuss both disruption and opportunity: on one hand, automation pressures routine segments; on the other, new roles emerge in quality assurance, customization, multimodal content, and domain-specialized services (Bakarić, 2025). Analyses of employment trends show that AI-era employability increasingly favors translators who can demonstrate specialized domain expertise and proficiency with tool ecosystems (Zheng et al., 2023). Broader discussions frame the profession's redefinition around added value, cultural mediation, ethical stewardship, and strategic communication, rather than raw sentence-level substitution (Walter & Agnetta, 2025). At the level of tools and day-to-day practice, the literature highlights two concurrent currents. First, NMT and CAT (computer-assisted translation) ecosystems have normalized post-editing workflows, with gains in throughput

tempered by quality and risk considerations (Constantin et al., 2024; Ssemugabi, 2025). Second, the emergence of general-purpose LLMs and chat-based assistants creates new affordances for drafting, terminology brainstorming, and rapid iteration, especially for part-time or freelance translators, while raising questions about confidentiality, bias, and consistency (Zhou et al., 2025; Shahmerdanova, 2025).

Implications for Yemen and Similar Contexts

For Yemen and comparable contexts, the reviewed literature points to three actionable priorities. First, workforce development: Align curricula with market needs by embedding structured training in post-editing, terminology/knowledge management, basic data literacy, and ethical decision-making; regional and Yemeni evidence show clear gaps that targeted training could address (Al-Batineh & Al Tenaijy, 2024; Alshargabi & Al-Mekhlafi, 2019). Second, professional positioning: Emphasize translators' differentiated value—cultural competence, dialect sensitivity, and ethical stewardship—where AI tools tend to be weakest, strengthening market resilience and client trust (Constantin et al., 2024; Shahmerdanova, 2025). Third, market and career strategy: Encourage specialization (e.g., legal, medical, technical) and tool-enabled service design to capture higher-value segments in an AI-affected market, a direction supported by employment and profession-oriented studies (Bakarić, 2025; Zheng et al., 2023).

Literature converges on a pragmatic middle ground: AI is neither a panacea nor an existential threat but a catalyst for role reconfiguration, competency upgrading, and workflow redesign. Yet, there remains a contextual evidence gap for Yemen since much of the fine-grained, post-2019 empirical work comes from broader Arab or global settings rather than Yemen specifically (Al-Batineh & Al Tenaijy, 2024; Alshargabi & Al-Mekhlafi, 2019). Addressing this gap requires localized studies that (a) document current workflows and tool adoption, (b) evaluate dialect- and culture-sensitive quality in AI outputs, and (c) pilot training interventions that integrate ethical and practical dimensions of AI-enabled translation. Such a focus would operationalize the consensus in the literature—human–AI complementarity—in Yemen's institutional and market realities (Constantin et al., 2024; Walter & Agnetta, 2025).

Method

This study adopted a mixed-methods descriptive design, combining quantitative and qualitative approaches to provide a comprehensive understanding of the impact of AI on Yemen's translation job market. It aimed to identify how AI influences translation workflows, job opportunities, and skill requirements, as well as to identify the perceived limitations and future economic implications of AI adoption. The quantitative component involved a structured questionnaire to capture measurable data on translators' experiences with AI tools, perceived challenges, and workflow changes. The qualitative component consisted of semi-structured interviews, which allowed for deeper exploration of translators' attitudes, concerns, and adaptive strategies. This design was chosen to triangulate findings, ensuring validity by integrating numerical trends with rich narrative insights.

Participants

A purposive sample of 11 professional translators was selected based on their engagement in translation and willingness to participate in the study voluntarily. They were drawn from translation service-providing centers in the cities of Taiz, Ibb, and Sana'a. They represented diverse academic backgrounds, ranging from bachelor's degrees in translation and linguistics to postgraduate qualifications in applied linguistics. Their professional experience varied from early-career translators to those with over two decades in the field. The age range was 25 to 55 years, ensuring perspectives from both younger translators

familiar with digital tools and senior professionals experienced in traditional practices. The inclusion criteria required participants to have at least two years of translation experience.

Data Collection

Interviews, used for data collection, comprised open and closed-ended questions to measure translators' familiarity with AI tools, perceived benefits and challenges, and impact on workflow. The sections included demographic information, technology adoption, AI-related anxiety, and skill development needs. A semi-structured interview guide was used around eight thematic areas (Table 1). First, demographic and professional background questions collected details on age, gender, location, education level, and years of experience in translation. The second area focused on AI usage patterns, asking participants how frequently they use tools such as Google Translate, DeepL, and ChatGPT. The third area examined the impact of AI on translation workflows, including changes in workload, efficiency, and overall processes. The fourth area explored perceptions of AI's role in translation, including whether respondents believe AI can fully replace human translators in Yemen and what limitations they perceive, such as cultural sensitivity, dialect accuracy, and ethical concerns. The fifth area addressed economic implications, asking participants about the long-term impact of AI on translation work and whether they expect positive, negative, or mixed outcomes. The sixth area focused on skills and adaptation, identifying the competencies needed to remain competitive in an AI-driven market, such as post-editing AI output, cultural localization, technical specialization, and AI tool proficiency. The seventh area examined support and resources, asking what training or tools would help translators adapt to AI technologies. Finally, the eighth area provided space for additional comments, allowing respondents to share concerns, suggestions, and observations about AI's role in translation.

Table 1. Parts of the Interview

Parts	Descriptions
Background	Collected information on age, gender, location, education level, and years of experience in translation.
AI Uses	Examined the frequency and extent of using AI tools such as Google Translate, DeepL, and ChatGPT in professional practice.
Impact on Translation Workflow	Explored changes in workload, efficiency, and overall workflow resulting from AI integration. Investigated whether respondents believe AI can fully replace human translators and identified perceived limitations
Implications	views on the long-term impact of AI on translation work, including expectations of positive, negative, or mixed outcomes.
Skills and Adaptation	Identified essential skills for remaining competitive in an AI-driven market, such as post-editing AI output.
Support and Resources	resources or training that would help translators adapt to AI technologies, including workshops and databases.
General Comments	Open respondents to share concerns and suggestions.

Data was collected via Zoom and face-to-face interviews, depending on participants' accessibility and preferences. Each interview lasted approximately 45-60 minutes and was audio-recorded with the consent of the interviewees. Responses were analyzed using descriptive statistics for closed-ended questions and thematic analysis for open-ended responses. Quantitative data were visualized through charts to illustrate trends in perceptions and skill requirements. Qualitative responses were coded to identify recurring themes related

to AI's impact, limitations, and adaptation strategies, following Braun and Clarke's (2006) six-step approach: familiarization, coding, theme development, review, definition, and reporting. Integration of findings occurred during interpretation, where quantitative results were compared and complemented by qualitative narratives to provide a holistic understanding.

Results and Discussion

This section presents both quantitative patterns and qualitative insights to provide a comprehensive view of AI's impact on Yemen's translation job market. The findings are organized around the three research questions and illustrated through figures and selected respondent quotations for clarity.

RQ1: To what extent professional translators adopt AI tools in Yemen?

Figure 1 illustrates that Google Translate is the most frequently used AI tool among respondents, with 64% reporting regular use. This dominance reflects its accessibility and familiarity in everyday translation workflows. ChatGPT shows moderate uptake, with 27% of respondents indicating they "usually" use it, suggesting emerging interest in generative AI for translation and related tasks such as text drafting. DeepL, despite its reputation for high-quality output in European languages, was rarely used, with only 18% reporting regular use. This limited adoption likely stems from restricted Arabic language support and infrastructural challenges. Variability in responses, including entries such as "Yes" or multi-label answers like "Sometimes; Rarely," indicates inconsistent interpretation of frequency categories, underscoring the need for clearer instruments in future research.
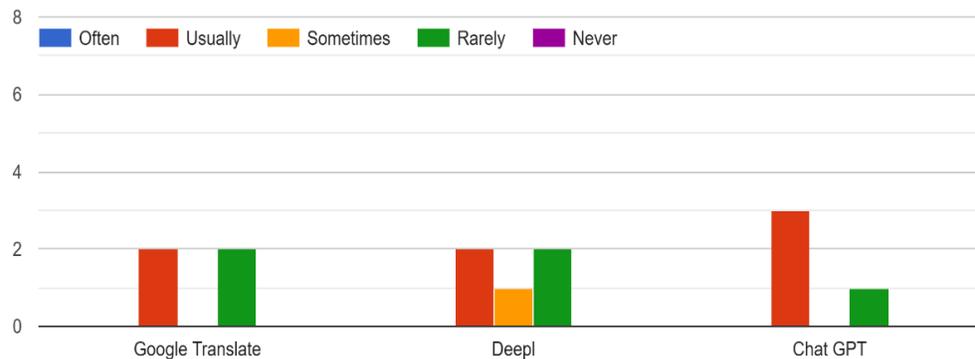
Figure 1. Frequency of AI tool usage among translators

Figure 2 shows responses to whether translators have gained new opportunities by integrating AI tools into their work. Out of 11 respondents, 54.5% reported that they have not gained any new opportunities, while 36.4% indicated that they have benefited from AI integration. A smaller group, 9.1%, was unsure about its impact. These results suggest that although AI tools have created opportunities for some translators, the majority have not experienced significant benefits, possibly due to technological and market limitations.

Figure 2. Responses to New Opportunities from AI Integration

These findings suggest that while AI tools have potential to open new avenues for some translators, the majority have not experienced tangible benefits yet. This may reflect challenges such as limited infrastructure, lack of training, or market readiness in Yemen. However, the positive responses indicate that proactive adoption and skill development could help translators leverage AI for future opportunities.
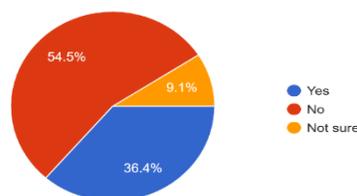
RQ2: How are these AI tools influencing their workflow?

Figure 3 presents how translators perceive the impact of AI on their workflow. Most respondents (72.7%) reported that AI tools have reduced their workload, making this the most significant effect. Additionally, 45.5% indicated that AI has improved efficiency, suggesting that many translators find AI helpful for speeding up tasks. Only one respondent (9.1%) stated that AI had no noticeable impact, and none reported negative effects such as increased competition or decreased income.
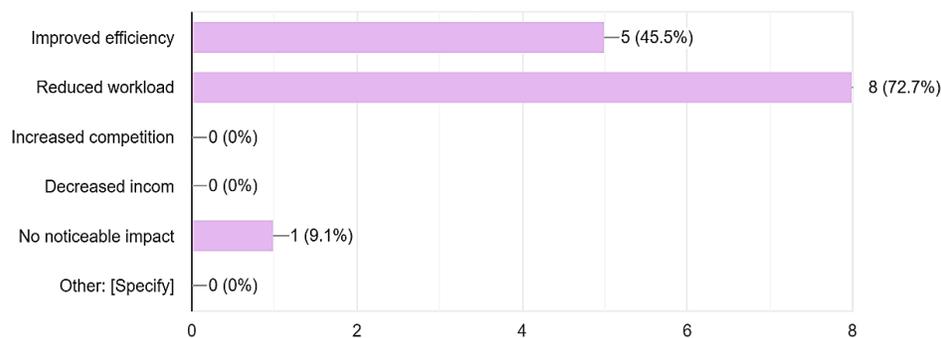
Figure 3. Impact of AI on Translators' Workflow

These findings indicate that AI integration is largely seen as beneficial for translators in Yemen, primarily by reducing workload and improving efficiency. The absence of responses for negative impacts suggests that, at this stage, AI is not perceived as a threat but rather as a supportive tool. However, the relatively lower percentage for improved efficiency compared to reduced workload may imply that while AI lightens tasks, it does not always significantly enhance overall productivity.

Figure 4 illustrates how AI has affected translators' work based on 11 responses. The majority (63.6%) reported no change, indicating that AI integration has not significantly altered their workload or job dynamics. A smaller proportion (18.2%) were not sure about its impact, reflecting uncertainty or mixed experiences. Only 9.1% stated that AI has increased their work, and another 9.1% reported a decrease. These findings suggest that, for most translators in Yemen, AI has not yet produced a noticeable shift in their professional activities. The high percentage of "no change" may be linked to limited technological infrastructure or slow adoption of AI tools. The small percentages for increased or decreased work indicate that AI's influence remains marginal and uneven across the market.

Figure 4. Impact of AI on Translators' Work

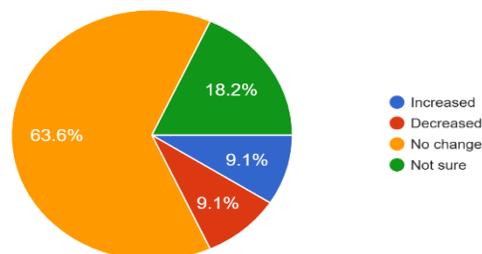Figure 5 shows responses to whether AI tools can fully replace human translators in Yemen. More than half of the participants (54.5%) believe that AI cannot completely replace human translators, while 36.4% are not sure, and only 9.1% think AI can fully replace them. These findings indicate that most translators view AI as a supportive tool rather than a substitute for human expertise. The high level of uncertainty suggests that many translators are unsure about AI's future role, possibly due to limited exposure to advanced technologies or unclear market trends. The very small percentage of respondents who believe in full replacement highlights the perceived importance of human judgment, cultural sensitivity, and contextual understanding, areas where AI still faces significant limitations.
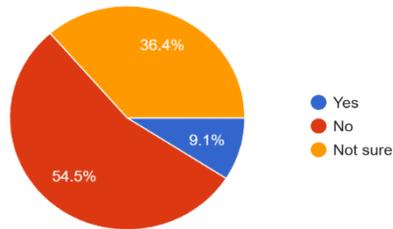
Figure 5. Beliefs about AI Replacing Human Translators   Figure 6. Job loss due to AI
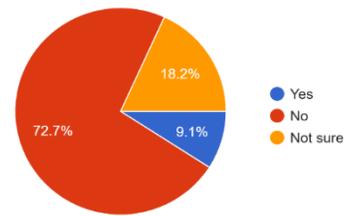
Figure 6 shows responses to the question: "Have you lost any translation jobs because of AI?" among 11 participants. The majority (72.7%) answered No, indicating that most translators have not experienced job loss due to AI. A smaller proportion (18.2%) were not sure, suggesting uncertainty about whether AI indirectly affected their opportunities. Only 9.1% reported Yes, meaning very few translators have lost jobs because of AI. These findings suggest that, at present, AI has not significantly displaced translators in Yemen's job market. The high percentage of "No" responses reflect limited AI penetration or its role as a supportive tool rather than a replacement. However, the presence of "Not sure" responses indicates some ambiguity, possibly due to market changes or client preferences influenced by AI tools.

RQ3: What limitations and skill requirements shape translators' ability to adapt to AI-driven changes in Yemen's market?

Figure 7 shows respondents' views on the limitations of AI tools in Yemen's translation market. The most frequently cited limitation is cultural sensitivity (63.6%), followed by dialect accuracy (27.3%) and ethical concerns (27.3%). A smaller proportion mentioned technical vocabulary (9.1%) and other unspecified issues (9.1%). These findings indicate that cultural and contextual factors pose the greatest challenge for AI in the translation industry. While AI tools can handle general language tasks, they struggle with nuanced cultural meanings and dialect variations, which are critical in Yemeni Arabic. Ethical concerns also highlight apprehensions about fairness, accuracy, and potential misuse. Technical vocabulary appears to be a minor issue compared to cultural and ethical dimensions, suggesting that AI's limitations are more socio-linguistic than technical.

Figure 7. Limitations of AI Tools in Yemen's Translation Market

When it comes to long-term impact, Figure 8 shows that the majority, 54.5%, believe the impact will be mixed, indicating that respondents expect both positive and negative consequences.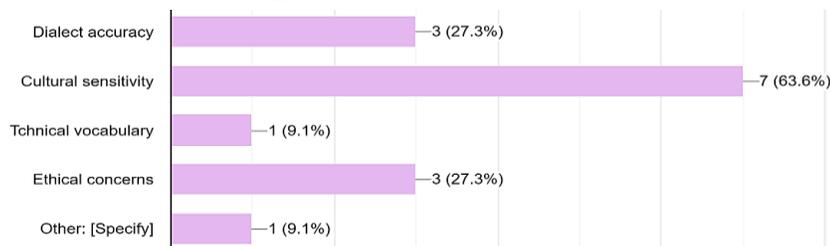 A significant portion, 27.3%, anticipates a negative outcome, such as fewer job opportunities and lower pay for translators. Meanwhile, only 18.2% foresee a positive effect, expecting more jobs and better pay. No responses indicated that AI would have no impact or that participants were unsure, suggesting that all respondents had a clear opinion on the matter. The findings in Figure 8 suggest that most participants recognize the complexity of AI's influence, acknowledging both opportunities and risks. However, negative perceptions outweigh positive ones, reflecting concerns about job security and income reduction. These results highlight the need for proactive measures, such as upskilling and policy interventions, to help translators adapt to AI-driven changes in the industry.
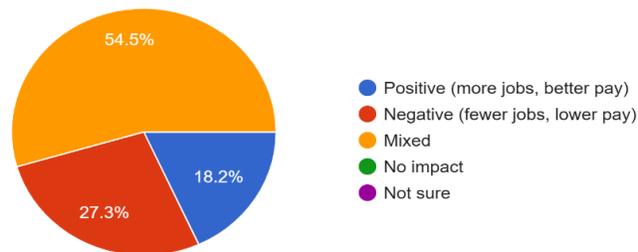
Figure 8. Long-term Impact of AI on Translation

To remain competitive in the translation job market, Figure 9 illustrates the skills that translators need to remain competitive in the job market, based on 11 responses. The most frequently mentioned skill is post-editing AI output, cited by 54.5% of respondents, indicating that the ability to refine machine-generated translations is considered essential. Cultural localization and AI tool proficiency follows, each identified by 36.4% of participants, highlighting the importance of adapting content to cultural contexts and mastering AI technologies. In contrast, technical specialization and other specified skills were mentioned by only 9.1% of respondents each, suggesting these are less universally prioritized but still relevant for niche areas. These findings suggest that translators see their future competitiveness tied closely to working effectively with AI, both in terms of improving AI-generated translations and leveraging AI tools. In addition, cultural expertise remains critical, reflecting the human element that technology cannot fully replicate. Technical specialization appears to be a secondary priority, likely valuable in specialized domains rather than general translation work.

Figure 9. Essential Skills for Translators to Stay Competitive in an AI-Driven Job Market

Responses to open-ended questions highlight a strong need for structured support to facilitate AI integration in translation workflows. The word cloud illustrates the most common

themes from translators' responses regarding resources needed for AI adaptation. Larger words represent more frequent mentions. Training and workshops dominate discussion, followed by technical skills, cultural and dialectal resources, and networking opportunities. This visualization highlights the emphasis on affordable training, cultural sensitivity, and collaborative platforms as key priorities for effective AI integration. Participants emphasized continuous training programs and workshops, particularly on effective AI use in higher education, research, and translation, as critical for adaptation. Free or low-cost training and sessions on post-editing AI-generated output were frequently mentioned. Technical readiness was another priority, with calls for improved computer skills, technological knowledge, and accessibility. Cultural and linguistic resources, such as Arabic and Yemeni dialect databases, were identified as essential to address AI's limitations in cultural sensitivity and dialect accuracy. Also, respondents suggested creating translator 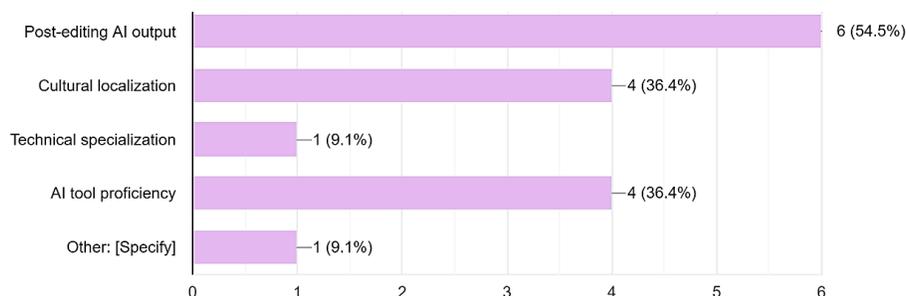networks or associations to share experiences and tools, alongside leveraging AI for tasks like organizing and formatting. Other comments reflected broader concerns about maintaining human intelligence in translation and the time and effort required for adaptation. These insights underscore the importance of affordable training, cultural resources, and collaborative platforms to ensure effective and ethical AI adoption in Yemen's translation market.

Taken the set of data in this section as a whole shows that AI adoption in Yemen's translation sector is not transformative. Tools like Google Translate help reduce workload and improve efficiency, yet two-thirds of respondents report no major change in overall workflows, indicating AI's impact is task-specific. Most reject full replacement, citing cultural and dialectal challenges—areas where AI struggles with nuance and pragmatic meaning. Economic views are mixed: some anticipate opportunities, others fear rate compression and job loss, reflecting a transitional market where general translation may be commoditized while specialized, culturally sensitive work and post-editing grow in importance. Skill development, especially post-editing, AI proficiency, and cultural localization, is critical, aligning with global trends that position translators as language experts and AI supervisors. Infrastructure gaps and ethical concerns further hinder adoption, underscoring the need for policy support, training, and resources such as dialect corpora.

The findings underscore the need for continuous training, human-in-the-loop workflows, and curriculum renewal. Translators should acquire AI literacy, post-editing skills, and terminology management competencies, while universities must integrate cultural and dialectal studies with affordable AI training programs. JESAF research supports these recommendations: Mohammed et al. (2025) highlighted the importance of structured training for emerging AI tools, and Shamsan and A-Quheit (2022) emphasized integrating linguistic and cultural competence into translation education. Additional strategies include building professional networks and associations for resource sharing, developing Yemeni dialect dictionaries to support localization, and promoting ethical governance and transparency in AI-assisted translation. These measures align with global scholarship

advocating for specialization, ethical safeguards, and hybrid workflows to preserve professional identity and cultural fidelity (Taşkın et al., 2025; Mahdi & Sahari, 2024).

The findings resonate with the themes identified in the literature review. The observed limitations of AI in cultural sensitivity, dialect accuracy, and ethical compliance mirror findings from studies emphasizing that these areas remain core human strengths (Alharbi, 2024; Constantin et al., 2024; Shahmerdanova, 2025). Similarly, the efficiency gains reported by respondents align with scholarship advocating a complementarity model, where AI accelerates routine tasks but cannot replace human judgment (Walter & Agnetta, 2025; Bakarić, 2025). Market challenges in Yemen, such as declining workflows and misconceptions about AI—echo earlier evidence of infrastructure gaps and competency mismatches (Al-Batineh & Al Tenaijy, 2024; Alshargabi & Al-Mekhlafi, 2019). The call for targeted upskilling and ethical governance reflects global recommendations for curriculum renewal and professional standards (Mahdi & Sahari, 2024; Taşkın et al., 2025). The findings reinforce the literature's consensus: sustainable integration of AI requires human-in-the-loop workflows, specialized training, and ethical safeguards, ensuring that technological adoption strengthens rather than undermines professional identity and cultural fidelity.

The findings of this study align closely with recent research, which provides localized insights into AI and translation education in Yemen. Alqohfa and Sanad (2025) demonstrated that AI tools struggle with idiomatic and culturally embedded expressions, reinforcing our result that cultural sensitivity and dialect accuracy remain critical limitations of AI translation. Similarly, Mohammed et al. (2025) reviewed emerging AI tools such as DeepSeek and Grok, highlighting their growing influence in education and the need for structured training—echoing our recommendation for curriculum renewal and ethical governance. Al-Khulaidi and Alzokhaimy (2022) documented a mismatch between Yemeni universities' translation program outputs and labor market needs, supporting our call for targeted upskilling and domain specialization. Shamsan and A-Quheit (2022) examined Arabic–English interference in Yemeni universities, underscoring the importance of integrating linguistic and cultural competence into AI-assisted workflows. Collectively, these JESAF studies validate our conclusion that sustainable AI integration in Yemen requires a human-in-the-loop approach, practical training, and strong cultural adaptation strategies.

These local studies strengthen the local relevance of the study. It validates the findings, as these studies confirm similar issues such as cultural challenges, idiomatic translation difficulties, and gaps in translator training. This subsection also bridges theory and practice by linking global debates on AI translation to Yemen's educational and market realities. Finally, it supports the study's recommendations for curriculum renewal, human-in-the-loop workflows, and domain specialization. In short, including this subsection demonstrates that the conclusions are contextually grounded and academically supported, which is critical for credibility and journal acceptance.

Conclusion

This study discussed how AI affects the translation job market, showing its impact on the translation service. Given the socio-economic context of Yemen, the AI impact remains limited, partially due to broader challenges, e.g., limited AI infrastructure, economic instability, and above all, limited demand for translation services. The study provides implications for universities and professional bodies to provide training programs and collaborative networks to strengthen translators' skills and resilience in an evolving market. Limitations of this study include a small sample size, which restricts generalizability and long-term insights. Future research should address these gaps through Comparative studies with other developing countries to benchmark AI adoption in translation markets. Longitudinal analyses to track changes in translator roles and AI integration over time. Sector-specific investigations into

legal, medical, and literary translation under AI influence. Educational research on integrating AI into translator training programs. By embracing innovation while safeguarding cultural and linguistic integrity, the translation industry can transform challenges into opportunities for sustainable growth.

This study is subject to acknowledged limitations. The sample size is small, which restricts the generalizability of the findings beyond the context of the study. The responses of the sample reflect their unfamiliarity with AI translation tools other than the most basic ones (e.g., GT), which is used as a language element but reduces human-created materials. The focus is primarily on translation as a profession and service, and its dynamics under the influence of AI. Since the context of the study is restricted by the limited technological infrastructure and ongoing socio-economic challenges in Yemen, this may have influenced participants' experiences and perceptions of AI integration. Study captures a single point in time and does not account for evolving trends in AI adoption or long-term impacts on the translation profession. Future research should address these limitations by employing larger, more diverse samples and longitudinal approaches to better understand the trajectory of AI's influence on translation markets.

Disclosure Statement
We (the authors of this paper) hereby declare that research ethics and citation principles have been considered in all stages of this paper. We take full responsibility for the content of the paper in case of a dispute. We confirm that the manuscript has been created by the author(s) and not an AI tool/Large Language Model (LLM).

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