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Artificial Intelligence: A Threat or an Opportunity for the Profession of Conference Interpreter

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Abstract

This article explores the impact of Artificial Intelligence (AI) on the practice of conference interpreting in Cameroon. Using a mixed-methods approach, it combines a survey of 41 conference interpreters with in-depth follow-up interviews. Results reveal that 95.1% of respondents view AI knowledge as essential for conference interpreters, recognizing its potential to enhance efficiency, productivity, and accuracy. However, concerns about cultural nuances, data privacy, and quality persist. The study underscores the importance of equipping interpreters with skills to effectively use AI-powered tools, emphasizing the role of training programmes and lifelong learning. This research provides valuable insights into the opportunities and challenges AI presents for conference interpreting, offering guidance for practitioners, stakeholders, and professional associations.

Keywords:

Artificial Intelligence, Conference Interpreting, Cameroon, Accuracy, Cultural Nuance.

1. Background to the Study

The profession of conference interpreting is a vital component of multilingual communication, facilitating effective dialogue in international settings. With the rapid advancement of artificial intelligence (AI) technologies, concerns have been raised about the potential impact of AI on the role of conference interpreters. Understanding the implications of AI on this profession is essential for both practitioners and stakeholders in the language industry (Franz, 2020). Conference interpreting involves orally translating spoken language from one language to another in real-time during conferences, meetings, and other events where participants speak different languages.

AI technology has the potential to both disrupt and enhance the field of conference interpreting. On one hand, AI-powered machine translation tools have significantly improved in accuracy and efficiency, making it easier for individuals to translate text and even spoken language in real-time. This has led to concerns among some interpreters that AI could potentially replace human interpreters altogether, as machines become more adept at handling linguistic nuances and context. On the other hand, AI can also be seen as an opportunity for conference interpreters to enhance their skills and efficiency. AI tools can assist interpreters in preparing for conferences by providing background information on the topics being discussed, helping with terminology research, and even offering real-time transcription and translation support during live events (Fantinuoli, 2019).

However, there are also challenges and ethical considerations associated with the use of AI in conference interpreting. Concerns about data privacy, accuracy, bias in machine translations, and the potential loss of human touch and cultural understanding in interpretation are all important factors to consider. As AI technologies, including machine translation and speech recognition, continue to evolve, there are uncertainties about how these advancements may affect the demand for human interpreters and the quality of interpretation services (Manderic 2022). This research aimed at investigating whether AI represents an opportunity or a threat to the profession of conference interpreting in Cameroon.

This study addresses key questions regarding the influence of Artificial Intelligence (AI) on the profession of conference interpreting. Specifically, it investigates how AI affects the demand for conference interpreters, the perceived benefits and challenges of integrating AI into the field, and the strategies interpreters can adopt to adapt to the technological changes brought about by AI. Through these inquiries, the research aims to assess the impact of AI on interpreter demand, identify and critically analyse the opportunities and risks associated with AI integration, and propose actionable strategies for interpreters to effectively leverage AI technologies.

The study hypothesizes that AI will not significantly affect the overall demand for conference interpreters but will offer notable benefits, such as increased efficiency, improved accuracy, and enhanced language support. It further posits that interpreters can adapt to AI by acquiring knowledge of AI tools, engaging in continuous learning, customizing AI technologies to suit their needs, and collaborating with AI developers. By examining the intersection of AI and conference interpreting, this research seeks to advance

understanding of the opportunities and challenges presented by AI, offering practical insights for interpreters and stakeholders to navigate the evolving landscape of the profession.

2. Literature Review

Conference interpreting is a vital component of multilingual communication, facilitating effective dialogue in international settings. The International Standards Organization (ISO) defines interpreting as "Rendering a spoken or signed message into another spoken or signed language, preserving the register and meaning of the source language content" (ISO, 2014:1). Interpretation involves various types s, including community interpretation and conference interpretation. Conference interpretation, in particular, requires interpreters to have specialized knowledge and training in a subject matter to provide accurate interpretation (Moschini & Lanza 2019).

The practice of interpreting in Africa has its beginnings in the oral traditions that have been essential modes of social dialogue in African societies for thousands of years (Bandia,2009). Interpretation in Cameroon began during the pre-colonial period with the advent of natural interpreters (Nama, 1990). These were people with excellent linguistic and cultural skills who acted as mediators between two or more individuals speaking different languages. Initially, interpretation was provided mainly in French and English, which were the official languages of the country. However, with the advent of globalization, the need for interpretation in other languages such as Spanish, Arabic, and Portuguese has become increasingly important (Ndeffo,2009).

The integration of Artificial Intelligence (AI) into conference interpreting has garnered significant scholarly interest in recent years. Various theoretical frameworks provide insight into the factors influencing the adoption of AI technologies within this field. The Technology Acceptance Model (TAM), developed by Davis (1989), offers a foundational perspective for understanding technology adoption. TAM identifies two primary factors—**perceived usefulness (PU)** and **perceived ease of use (PEOU)**—as determinants of users' acceptance of technology. It posits that if individuals perceive a technology as beneficial and straightforward to use, they are more likely to integrate it into their workflows. This model provides a valuable lens for examining how conference interpreters evaluate AI tools and their potential for enhancing efficiency and performance.

In contrast, the **Technological Determinism Theory**, proposed by McLuhan (1964), emphasizes technology as the driving force behind societal transformation. This theory suggests that technological advancements profoundly influence individual behaviour, cultural practices, and economic structures, necessitating adaptation to maintain relevance. Within the context of conference interpreting, this perspective implies that the profession must evolve in response to the proliferation of AI technologies. The theory underscores the necessity for interpreters and related stakeholders to align their practices and training programmes with the capabilities and demands introduced by AI innovations.

Together, these theories highlight both the internal factors shaping interpreters' acceptance of AI tools and the broader societal shifts driven by technological change, offering a comprehensive framework for understanding AI's impact on the profession of conference interpreting.

Empirical studies have investigated the role of Artificial Intelligence (AI) and related technologies in conference interpreting, shedding light on practical applications, user attitudes, and ethical implications. Research has shown that technology adoption varies among interpreters. For instance, Kambang Emmanuel (2014) found generational and gender differences in ICT tool usage patterns. Younger interpreters and male interpreters exhibited higher levels of ICT adoption.

Recent studies have explored the impact of technology on interpreting practice. Chan (2024) conducted a systematic review of 40 articles, revealing a growing trend of technology-mediated remote interpreting and technology-supported interpreting in public service settings. However, the study found mixed results on the impact of technology on interpreting performance, highlighting the need for training and insights into the changing role of interpreters.

Other studies have examined the ethical implications of AI-powered interpreting. Setton (2020) raised concerns around accuracy, confidentiality, and transparency, while Horvath (2022) emphasized the importance of transparency, accountability, and responsibility in AI system development and use.

The integration of AI in speech translation systems, terminology management, and online remote interpreting platforms has also been explored. Horvath (2022) identified ethical concerns, including data bias and quality, data privacy and ownership, and transparency.

Furthermore, research has investigated the impact of AI on the translation profession. Mandaric (2022) found that AI-powered machine translation technology can be useful for technical texts, but emphasized the importance of human translators controlling the machine and utilizing AI- powered tools.

In the context of conference interpretation, the use of Remote Simultaneous Interpretation (RSI) has become increasingly prevalent, particularly in Cameroon. Emassi (2024) found that RSI has become a popular option, driven by technological advancements and the COVID-19 pandemic's remote collaboration needs. The study highlighted the benefits of RSI, including increased job prospects and flexibility for interpreters.

3. Methodology

This study adopted a concurrent triangulation mixed-methods approach, integrating quantitative and qualitative data collection and analysis to ensure a comprehensive examination of the research topic. The simultaneous collection of both types of data facilitated a holistic understanding of the impact of Artificial Intelligence (AI) on the profession of conference interpreting.

Research Design and Sampling

Quantitative data was collected through a questionnaire, while qualitative insights were obtained via structured interviews. The sample population comprised trained and natural interpreters operating in diverse segments of the Cameroonian market. A purposive sampling strategy was employed to select participants with relevant experience in using new technologies, particularly AI tools, in interpreting. Selection criteria included language proficiency, familiarity with AI technologies, type of interpreting practiced, and professional background.

Instrument Validation and Pilot Study

To ensure the validity and reliability of the research instruments, a pilot study was conducted with a small group of participants (15 participants). This preliminary phase enabled the identification and correction of potential deficiencies in the instruments (questionnaires and interviews), ensuring their suitability for the larger sample population.

Data Collection Methods

Data collection employed two primary instruments: a questionnaire and structured interviews. The questionnaire included multiple-choice, closed-ended, and open-ended questions to capture both quantitative and qualitative data. Structured interviews were conducted with seasoned interpreters to gain deeper insights into the perceived opportunities and challenges associated with AI in conference interpreting. Google Forms facilitated the administration of the questionnaire, offering a cost-effective and accessible solution for data collection. While this method was convenient for respondents, occasional internet connectivity issues posed minor challenges to response times.

Data Analysis

Collected data was analysed using both descriptive and inferential statistical methods. Descriptive statistics, including frequency counts and percentages, were used to summarize the data, while inferential statistics, specifically Chi-Square tests, were employed to identify significant relationships. Data analysis was conducted using SPSS version 25.0, with results presented in tables and figures to ensure clarity and accessibility.

Ethical Considerations

Ethical protocols were strictly adhered to throughout the research process. Approval to conduct the study was obtained from the relevant university authorities. Participants were informed about the research objectives, their rights, and the voluntary nature of their participation. Anonymity and confidentiality were guaranteed, and personal data was securely handled to protect participants' privacy.

The rigorous mixed-methods approach employed in this study allowed for a nuanced exploration of the impact of AI on conference interpreting. The careful selection of research design, sampling strategy, and data collection and analysis methods ensured the validity and reliability of the findings.

4. Findings

This section presents the results of the study, organized around three key themes: the influence of Artificial Intelligence (AI) on the demand for conference interpreters, the perceived benefits and challenges of integrating AI into the profession, and the strategies interpreters can adopt to adapt to technological changes brought about by AI.

AI's influence on the demand for conference interpreters

The findings indicate that AI is perceived as a transformative tool in the interpreting profession. A majority of respondents (78.0%, n=32) reported familiarity with AI, and an even larger proportion (95.1%, n=39) recognized its usefulness for interpreting tasks. Furthermore, 85.4% (n=35) expressed a willingness to adopt AI-powered interpreting tools in the near future, with 78.6% (n=11) of those currently considering adoption and all respondents (100%, n=11) planning adoption intending to start using such tools within the next two years. These findings underscore the growing acceptance of AI-powered tools and their anticipated role in shaping interpreting practices.

When examining the impact of AI on the demand for conference interpreters, the data revealed mixed expectations. A notable proportion of respondents (31.7%, n=13) predicted that AI would increase demand, suggesting that AI technologies may complement human interpreters by enhancing efficiency and extending accessibility to multilingual communication. In contrast, 14.6% (n=6) anticipated a decrease in demand, potentially reflecting concerns about AI replacing certain interpreting tasks. Meanwhile, 29.3% (n=12) expected no significant change in demand, and 24.4% (n=10) expressed uncertainty. These varied perspectives highlight the complexity of AI's potential influence on the profession, with many anticipating a shift toward collaboration rather than substitution.

Although AI may alter specific aspects of interpreting workflows, its impact on overall workload is expected to be moderate. Fewer than half of the respondents predicted either an increase or decrease in workload, suggesting that AI will primarily act as a supplementary tool rather than a disruptive force.

Regarding job security, opinions were similarly diverse: 39.0% (n=16) reported no concern, 34.1% (n=14) were somewhat concerned, and 26.8% (n=11) were very concerned. These findings indicate that while apprehensions persist among some interpreters, many view AI as a manageable and potentially advantageous addition to their professional toolkit.

Perceived benefits and challenges of integrating AI in conference interpreting

The findings addressing the second research question reveal significant insights into the perceived benefits and challenges of integrating AI into conference interpreting. A vast majority of respondents (87.8%, n=36) regarded AI knowledge as essential for conference interpreters, highlighting its increasing relevance in the profession. Regarding the benefits of AI-powered interpreting tools, the most commonly cited advantages included increased efficiency (63.4%, n=26) and enhanced productivity (58.5%, n=24). Additional benefits mentioned were enhanced language support (48.9%, n=20), improved accuracy (46.3%, n=19), and cost savings (36.5%, n=15).

Respondents also highlighted specific ways AI could improve interpreting quality, with 68.3% (n=28) to 36.6% (n=15) identifying features such as automated terminology management, enhanced research capabilities, and real-time feedback. Furthermore, 68.3% (n=28) anticipated that AI would improve accessibility to interpretation services, while 80.5% (n=33) acknowledged its potential impact on the role of human interpreters. Notably, 87.8% (n=36) of respondents expressed optimism about the future of conference interpreting with AI integration, indicating a generally positive outlook on its transformative potential.

However, nearly all respondents (97.6%, n=40) acknowledged challenges associated with integrating AI into conference interpreting. Key concerns included cultural nuance and contextual understanding (68.3%, n=28), privacy and security issues (63.4%, n=26), and quality concerns (43.9%, n=18). Additional challenges identified were ethical decision-making (41.5%, n=17), bias and fairness (29.3%, n=12), technical issues (24.4%, n=10), and job displacement (21.9%, n=9). Other less frequently mentioned concerns included cost (14.6%, n=6), training (9.8%, n=4), and the difficulty of AI in emotional reading and identifying sector- specific terminology (2.4%, n=1).

In summary, while the findings underscore the significant benefits AI offers for enhancing the efficiency, productivity, and accessibility of conference interpreting, they also highlight critical challenges that must be addressed. These challenges emphasize the need for careful integration strategies, ongoing training, and ethical considerations to maximize the potential of AI while mitigating its limitations.

Ways in which conference interpreters can adapt to technological changes brought about by AI?

In summary, the study highlights several strategies that interpreters can use to tap into opportunities arising from the integration of AI into the profession as indicated in the graph below.

Figure: *Strategies that Can be Adopted to Leverage AI Technologies Effectively*
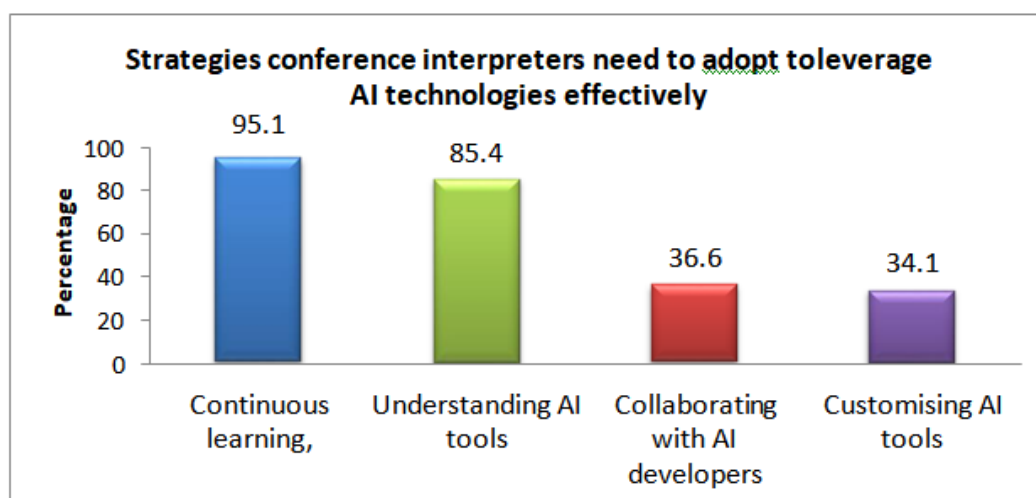
The strategies conference interpreters can adopt to effectively leverage AI technologies were strongly emphasized by respondents. A significant majority (95.1%) highlighted the

importance of continuous learning, while 85.4% underscored the need to understand AI tools. Additionally, 36.6% advocated for collaboration with AI developers, and 34.1% suggested the customization of AI tools to better suit interpreting needs.

Moreover, the most frequently cited opportunities were the potential for AI to serve as a trainer and evaluator (75.6%, n=31), followed by its capacity to enhance productivity and efficiency (68.3%, n=28). Additionally, 65.9% (n=27) of respondents recognized the benefits of human- AI collaboration, while 53.7% (n=22) pointed to the promise of real-time translation tools. Fewer respondents mentioned other emerging opportunities, such as the development of domain-specific expertise (41.5%, n=17), the automation of routine tasks (36.6%, n=15), and the role of AI as an ethics consultant (24.4%, n=10).

Furthermore, 63.4% (n=26) of respondents emphasized the critical role that professional associations play in preparing conference interpreters to adapt to AI-powered tools. This can be achieved through targeted training programmes, ensuring that interpreters are well-equipped to navigate the evolving landscape of AI in their profession.

5. Discussion of Findings

The findings revealed a strong familiarity with Artificial Intelligence (AI) among respondents, with most perceiving it as a useful tool for conference interpreting. A significant portion expressed willingness to adopt AI-powered tools in the near future, with many aiming to integrate these technologies within the next two years. This enthusiasm underscores the perceived potential of AI to enhance the interpreting profession.

Regarding the impact of AI on the demand for conference interpreters, opinions were divided. While some respondents predicted an increase, others foresaw no change or were uncertain. The findings suggest that AI is unlikely to drastically alter the workload of conference interpreters, with varying views on its overall impact.

The benefits of integrating AI-powered tools were widely acknowledged. Many respondents highlighted improved efficiency, productivity, and accuracy, alongside enhanced accessibility to interpretation services. Optimism about the future of conference interpreting with AI was a recurring theme, as respondents recognized opportunities for collaboration between human interpreters and AI technologies.

However, challenges were also apparent. Concerns around cultural nuances, privacy, security, and quality emerged as key issues. Ethical considerations, including confidentiality and potential biases, were highlighted in follow-up interviews, alongside apprehensions about error rates and the ability of AI to address cultural sensitivity. These findings indicate a need for caution and ongoing assessment in adopting AI tools.

Future opportunities for interpreters were identified, such as roles as AI trainers and evaluators, leveraging real-time translation tools, and specializing in domain-specific tasks. Respondents emphasized the importance of preparing for these changes through targeted training programmes and professional development initiatives.

Overall, the study underscores the dual nature of AI's integration into conference interpreting: it offers substantial benefits but also presents significant challenges. Professional associations and training institutions will play a crucial role in equipping interpreters with the necessary skills to navigate this evolving landscape effectively.

Conclusion

This study explored the impact of Artificial Intelligence (AI) on the profession of conference interpreting in Cameroon. The findings reveal that AI is widely regarded as a valuable tool, offering benefits such as increased efficiency, enhanced productivity, and improved accuracy. However, significant concerns were identified, particularly regarding quality, cultural nuance, contextual understanding, data privacy, and security. Despite these challenges, the willingness to embrace AI-powered interpreting tools was notable among respondents, underscoring the profession's readiness to evolve alongside technological advancements. The study emphasizes the importance of equipping conference interpreters with the skills needed to adapt effectively.

By providing insights into the opportunities and challenges associated with AI, this research contributes to a deeper understanding of its role in conference interpreting. The findings are valuable for practitioners, stakeholders, and professional associations navigating the dynamic landscape of the profession. Ultimately, the study suggests that AI is not a replacement but a complement to human interpreters, enhancing their capabilities and ensuring the continued relevance of the profession in a technologically advanced world.

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