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Optimizing Human-AI Collaboration in Translating Intergovernmental Documents: A Study of Administrative Staff at Vietnamese-German University

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Abstract: The introduction of artificial intelligence (AI) technologies has changed the translation profession dramatically. This research involves exploring the Human-AI partnership in the translation of intergovernmental documents by administrative personnel of the Vietnamese-German University (VGU). A mixed-method approach, consisting of comparative document analysis and semi-structured interviews, is employed to assess the Human-AI collaboration in translation. The study assessed 21 translation pairs by utilising modified criteria for translation quality assessment and interviewed six administrative staff members to explore their views on translation with the use of ChatGPT. Results showed that the translations produced by human-AI collaboration approach were of better overall quality than those produced by ChatGPT only. The partnership between humans and AI worked well to improve the quality of the translation. The results of this study lead to the recommendation of a three-part collaborative workflow, pre-editing, AI processing, and post-editing, with human involvement in the first and third stages, putting human expertise in the first and last stages.

Keywords: Machine Translation, ChatGPT Translation, Human-AI Collaboration, Intergovernmental Documents, Administrative Staff

1. Introduction

1.1 Background of the Study

Translation is a crucial bridge for the flow of knowledge with the process of globalisation especially in international educational institutions and diplomatic institutions. AI-based translation systems are evolving at a rapid pace and changing the translation industry. Such systems are rapid, easy to use, and provide real-time translation between different languages (Tekwa, 2024; Ashraf, 2024; Stahlberg, 2020). Indeed, AI-based solutions are proposed as a cost-effective and reasonably accurate way to bridge the language barriers in typical applications (Liu *et al.*, 2024). But getting translations that effectively capture the meaning, tone and cultural implications of the original message is still a challenge.

The Vietnamese-German University was established on the basis of an intergovernmental agreement between Vietnam and Germany. VGU is supported by important stakeholders like the Federal Ministry of Education and Research (BMBF), the Ministry of Higher Education, Research and the Arts Baden-Württemberg (MWK), the German Academic Exchange Service (DAAD), the World University Service (WUS) and the VGU-Consortium.

VGU's administrative and diplomatic documents are not only a means of information, but also legal and political bridges between the two countries. Strategic documents, from ministerial dispatches to resolutions of the University Council, typically written in the peculiar bureaucratic language of Vietnamese officials, should be translated into English for German leadership, for example. Or translate English documents from the University Council into Vietnamese documents to send to the Ministry of Education and Training (MOET) of Vietnam or the Vietnamese state agency.

1.2 Problem Statement

The digital age worker can find support in AI-powered translation solutions such as Quillbot, ModernMT, Tarjma AMT and DeepL. AI-based machine translation tools are increasingly employed in various facets of language learning, e.g., reducing lexico-grammatical errors (Lee, 2020), increasing lexical and syntactic complexity and fluency (Mujtaba *et al.,* 2022), enhancing reading comprehension and writing (Alhaisoni & Alhaysony, 2017; García & Peña, 2011), or generating high-quality dialogue materials (Young & Shishido, 2023). In fact, AI-enabled solutions offer a cost-effective and relatively accurate technique of eliminating language barriers in typical applications (Liu *et al.*, 2024). However, the process of translating is still a struggle to effectively represent the message, tone and cultural connotations of the original. Sometimes, AI translation algorithms fail to get to the characteristics of diplomatic mindset and culture to conduct high-ranking Vietnamese-German conversations. This can lead to big diplomatic miscommunication. Ambiguity and cultural nuances are challenges for administrative professionals, and utilising AI translation technology for politically sensitive and institutionally complicated files is still a huge difficulty for them. They are no experienced translators or linguists and do not have the expertise and language competency to double verify or edit a fully automated translation. That makes people far too welcoming and that blind faith is potentially problematic. German academic writing is clear, precise and formal. But the AI English is not in this style because most AI translation platforms are educated in datasets created for native English speakers, Americans or the British. It is generally fluid, idiomatic and suggestive. The AI generated translation thereby keeps the meaning of the original text, although it may not sound natural to the German reader. In such places human translators usually do better as they can draw on their vast cultural and language experience. A more balanced approach is increasingly required, combining the strengths of AI with the linguistic expertise and cultural awareness of human translators.

1.3 Aims and Objectives of the Study

The study is to develop a Collaborative Human-AI Framework for Translation of Intergovernmental Documents at VGU. For the aim of the study, the author has formulated two objectives. 1. To examine the implications of the AI translation technologies utilised by the VGU administrative staff in translations of the intergovernmental papers. Human-AI collaboration is a cooperative alliance, in which the human and AI coordinate their respective skills to work towards a common purpose of process optimisation. The study also describes (2) the skills and learning strategies of non-professional translators in the adoption and enhancement of the output of these AI translation procedures to ensure a certain level of diplomacy.

In this way, the research reported here has a twofold value in practical and theoretical utility. In practice, it devises a customised workflow model for administrative professionals working in multinational enterprises to leverage the productivity of AI and reduce the possible dangers of diplomatic misunderstandings. The research contributes theoretically to the field of translation studies within the scope of academic diplomacy. This study proposes the use of AI translation tools as an assistant rather than replacement for human labour, to demonstrate how those who do not have professional linguistic training can utilise the technology to deal with their translating work that has high requirements in political sensitivity, cultural disparities and rigorous academic standards.

While the use of AI in training professional translators and teaching translation as an academic subject has been the focus of much of the literature in translation studies, there is a considerable research gap regarding administrative staff with domain knowledge and high language proficiency but without formal training in translation. Many studies were done in the field of artificial intelligence applications in translating commercial contracts, business correspondence, and even in the translation pedagogy in colleges.

However, research about the peculiarities of the diplomatic and intergovernmental documents have not been studied enough.

In an attempt to achieve the purposes indicated above, the following two research questions are formulated:

RQ1: What are the differences between AI-only and Human-AI collaborative translation of intergovernmental materials at VGU?

RQ2: How do administrative professionals in the translation of intergovernmental papers understand the success of Human–AI collaboration?

2. Literature Review

The literature review will start with the background of relevant theories to the research field and then restrict to a single theoretical framework that leads the investigation. In this theoretical schema the theory of machine translation is a key factor, because it gives a penetrating grasp of what machine, computer assisted and AI-supported translations are. These views show the dynamism of these systems and their limitations in dealing with context and cultural meaning. The research is theoretically located in a Human-AI collaboration paradigm drawing on ideas from translation studies. This method treats AI as a human's assistant in translation. The book relies heavily on many ideas of translation again and underlines that translators are basically cultural mediators.

2.1. Theoretical Background

2.1.1 Machine Translation

The translation industry has witnessed a huge change in the past decades with the old methods of translation being replaced by computer assisted translation methodologies. Machine translation (MT) technologies are becoming popular to solve vocabulary and grammar issues. MT is a human-machine process supported by technology like as computers, the internet and software, as recent study has suggested (Rivera-Trigueros, 2022, p. 594).

Quah explains Machine Translation as the "traditional definition of the use of a computer to translate between natural languages" (Quah, 2006, p. 57).

MT has historically been treated poorly, usually associated with poor results for anything more complex than short words (Stahlberg, 2020). The field of language translation has changed quite a bit in the recent past, largely because of technology. Many improvements have been made in the translation field since the advent of MT and Computer-Assisted Translation (CAT) technologies, the latest one being AI. The quality of machine translation has improved dramatically (Koehn, 2009, p. 1)

MT and its variants are defined in the book "Crossroads between Contrastive Linguistics, Translation Studies and Machine Translation" by Czulo and Hansen-Schirra as "the generation of translations with no human intervention" (Czulo & Hansen-Schirra, 2017, p. 92).

2.1.2 AI Translation

The quality of machine translation has substantially increased in recent years (Koehn, 2009, p. 1). Now, the emergence of translation systems based on artificial intelligence has greatly increased the accuracy and appeal of MT. The construction of AI translation systems is trained on large volumes of bilingual data which reflects the intricate structures and subtleties between different languages, compared to the older statistical methods. The update would not only enhance the quality of translation but also broaden the breadth of translation technology applications in many fields like international trade, healthcare, and education.

AI translation uses computational models trained on large datasets to generate target-language text and can process translation tasks rapidly, but its performance remains dependent on context, training data, and domain-specific constraints (Moneus & Sahari, 2024; Stahlberg, 2020). Li (2024) further shows that systems such as DeepL can achieve strong accuracy, fluency, and naturalness, while contextual interpretation still requires careful evaluation.

Recent AI-assisted translation approaches increasingly combine neural machine translation and large language models with human review. Jabak (2025) conceptualises this as a collaborative model in which AI supports repetitive and computationally intensive operations while human translators retain responsibility for semantic, syntactic, pragmatic, cultural, and ethical judgement. A recent systematic review likewise reports benefits such as improved translation efficiency, grammar and vocabulary support, and post-editing assistance, alongside risks of overreliance and contextual inaccuracy (Nguyen *et al.,* 2025).

ChatGPT

ChatGPT was introduced by OpenAI in November 2022 as a conversational AI system designed to respond to natural-language prompts and generate text-based responses (OpenAI, 2022).

2.1.3 Intergovernmental Documents

Intergovernmental means a relationship or interaction "between two or more governments" (Cambridge University Press, n.d.). Intergovernmental documents are formal documents relating to the communication, cooperation and administrative coordination between VGU and Governmental, institutional and strategic partners in Vietnam or Germany within the scope of this study. These may include Vietnamese ministries, German partner institutions, University Council and other units involved in Vietnam-Germany partnership. Documents at VGU may include: ministerial dispatches; documents related to the University Council; official correspondence with the Vietnamese and German stakeholders; strategic reports submitted or received from the relevant governmental/institutional bodies; documents related to the cooperation and policy-related texts on Vietnam-Germany collaboration. They are not treated as regular internal administrative documents, since they usually involve a number of stakeholders, formal institutional procedures and politically or diplomatically sensitive communication. These documents therefore necessitate a high level of language precision, terminological consistency, institutional appropriateness and cultural sensitivity.

2.2 Advantages and Disadvantages of AI Translation

Machine translation has come a long way and can be of great use in particular scenarios. But it's crucial to understand the system restrictions if you want to ensure successful deployment. This paper discusses the main advantages and disadvantages of machine translation:

2.2.3 Advantages of AI Translation

AI translation has several benefits and has transformed communication and access to information across languages. Machine translation systems can provide rapid access to multilingual content and are increasingly used to support communication and language-related tasks (Stahlberg, 2020). In educational and translation settings, AI translation tools have been reported to improve translation efficiency, vocabulary and grammar support, post-editing, accessibility, and learner engagement, although these benefits depend on appropriate human oversight (Nguyen *et al.,* 2025). Such tools may therefore be useful for administrative staff whose primary role is not professional translation, particularly when they are used as support systems rather than as substitutes for review and institutional judgement.

AI translation provides a twofold benefit of time and cost savings for administrative staff. The huge advantage of AI translation compared to human translation is speed. The AI translation is incredibly efficient, able to translate vast amounts of text in seconds. This makes it ideal for administrative staff who have many different things to handle and just a limited time for translation work between their main activities. Besides, the administrative staff can act as a translator efficiently due to the usage of AI translation technologies, which means a huge saving for the university. Businesses can then leverage their internal people resources to the fullest, eliminating the need for costly external translation services or specialised linguistic jobs. This strategy also helps maintain the translation inexpensive and relevant to context since administrative staff members are more familiar with the institution than outside experts.

AI translation is one of the best tools for consumers and organisations owing to speed, cost and its capacity to break down language barriers. But one has to be conscious of the weaknesses of AI translation and utilise it cautiously, perhaps in combination with human knowledge and expertise, so as to attain accuracy and efficiency in the translation task. For these reasons, AI translation is the preferred translation method for unskilled translators.

2.2.4. Disadvantages of AI Translation

There are many benefits to using AI translation, but there are still major challenges to getting perfect, context-aware AI translations. Let's look more closely at some of the hurdles:

Idioms are some of the most difficult things for AI to translate. These formulations typically bring with them implications beyond the precise definitions of the words they are made of and are therefore challenging for automated systems to interpret appropriately (Toral & Way, 2018).

Another important challenge with artificial intelligence is its failure to grasp cultural and environmental differences. Many think that translation is only transporting a word from one language to another. It needs a profound understanding of the specifics of culture and contextual signals that define meaning (Nida, 1964; Bassnett, 2014; Baker, 2018). So far, it seems that AI has lacked the innate aptitude humans possess to detect these nuances. This is because a translation can be theoretically correct but not communicate to a culture.

There is no way that AI translation can be as creative and flexible as human translators (Nirenburg *et al.*, 2003, p. 8). The issue is that AI is still not particularly effective at adapting the tone and style of translations to suit target audiences or readers, whereas human translators are superb at this. As one of the most critical issues affecting the quality of AI translation is data dependence. The quality of AI translation depends a lot on the data it is trained on. Inaccurate or misleading translations might result from a lack of subject matter expertise or skewed data (Bender *et al.,* 2021).

AI has difficulties in translating texts from specific sectors, such as legal, medical and. These subjects demand far more than language precision they require a deep command of very complex vocabulary often with no clear counterpart. The use of AI in translation undertaken by non-professional users gives rise to serious concerns. There is less careful monitoring by new translators such as administrative staff who have no linguistic expertise and may rely too much on technology. These consumers may take the outputs of AI as the final solution with minimal knowledge of translation theories or contrastive linguistics. There is a working basis in artificial intelligence, but the absence of good post-editing by experienced people can produce diplomatic misunderstandings. There are both positives and cons of AI translation versus human translation in terms of translating material. AI-based translation engines employ advanced machine learning algorithms and natural language processing techniques to translate text quickly and efficiently. But these computers may struggle with complex speech patterns, idiomatic expressions and cultural references. Humans, however, have a much better grasp of the languages they translate and are able to render the substance and intention of the original text accurately. They are also well suited for complex linguistic structures and cultural references. However, human translation can take long. In addition, human translators have a good knowledge of the languages and cultures involved, and can correctly reproduce the meaning and tone of the original text while translating. To recap, both AI translation and human translation have their benefits and cons, and the best answer in each case will depend on the specific needs and requirements of the translation process.

2.3 Previous Studies

2.3.1 AI's Influences on the Translation Process

Many research studies have demonstrated that AI has both positive and bad impact on translation in four dimensions as speed, accuracy, quality and user trust. As Ye (2024) notes, one of the main advantages of AI translation systems such as ChatGTP is instant translations. If ChatGPT understands the source language correctly, the user can quickly translate the content. "Human translators take days to translate complicated materials. ChatGPT can do it within seconds, quickly and accurately, so it is a very efficient alternative," Ye stresses.

The case study research found that human translation is better than machine translation largely because of its capacity to accurately convey the desired meaning (Hussein & Kadhim, 2024). It is more able to achieve maximum cultural sensitivity and effectiveness. The problem with machine translation is that it is not as accurate as human translation, particularly in picking up subtleties and cultural references. AI is not as good as human translators at translating phrasal verbs, proverbs, idiomatic expressions, metaphors and allusions.

Nguyễn Thị Thu Trang and Lê Thị Ngọc Hà (2025) analysed the common difficulties of Google Translate including the semantic flaws, grammatical faults and errors of speciality translation. The study investigates the problems of translating idioms, technical terms and cultural nuances. They suggest studying the context of translation, using GT as an auxiliary instrument. They talk of the demands of a decent translation. It would be good for students to study the limits of machine translation They ought to be able to correct the mistakes."

2.3.2 AI-Humans Collaboration in Translation

The past integration of technology in translation studies has been researched. Hutchins and Somers (1992, p. 148) propose a basic theoretical framework that categorises four kinds of translation that relate human and

machine involvement in a classification on a linear continuum. It recognises four basic types of translation in terms of the extent of computer intervention, namely fully automated high-quality machine translation (FAHQMT), human-assisted machine translation (HAMT), computer-assisted translation (MAHT), and human-translated (HT). However, recent studies indicate that the boundaries between these categories are increasingly blurred, as current translation tools are more sophisticated than those of the early 1990s (Quah, 2006, p. 172). Quah (2006, p. 171) nevertheless emphasises that technology cannot fully replace human translators because human language contains multilayered meanings and contextual nuances. Pre- and post-editing therefore continue to require human involvement. Bassnett (2002) similarly treats translation as the transfer of meaning across linguistic and cultural systems rather than simple lexical substitution. Within this perspective, the translator functions as a cultural mediator who must account for social and cultural structures as well as linguistic form (Bassnett, 2002, pp. 22–23, 132–133). Technology's involvement in translation has progressed from rudimentary assistance to more complex forms of translation-mediated communication, in which digital tools form part of the workflow rather than remaining optional additions (O'Hagan & Ashworth, 2002, pp. 2–14). O'Hagan and Ashworth (2002, pp. 27–32) consequently describe translators as increasingly operating as translation engineers. Angelelli and Jacobson (2009) further show that translation and interpreting assessment involves multidimensional performance constructs rather than isolated lexical correctness, reinforcing the need to evaluate translation quality through broader communicative and contextual criteria.

In their article "Human-AI collaboration in translation and back translation of literary texts", Alkodimi, Alqahtani and Al-Wasy (2024) studied the influence of AI tools such as the AI tool called, ChatGPT, on the translation and back-translation of literary texts. The results of studies with 80 students of English demonstrated that AI based Translation and Back-Translation may be more effective than traditional Methods. The best translations were mostly produced by AI algorithms and were found useful, particularly for back-translation purposes. The application of machine translation to poetry appears to be promising, but there is a need for future research to investigate the possible uses of this technique with other literary genres and a larger range of texts.

Li (2024, pp. 710-717) discusses the quality control of DeepL's translation in three aspects: the input text, the processing and the quality evaluation. DeepL was superior than Google and Microsoft in accuracy, fluency and naturalness across corpora. But Li says DeepL's success is due to "syntactic analysis" and that correctness alone does not mean it understands context deeply.

Moneus and Sahari (2024) compared human and AI translation in legal texts and concluded that AI systems can provide rapid and useful translation support, but human translators remain stronger in handling contextual, cultural, and domain-specific subtleties. Their findings support the use of AI as an assistive component rather than as an autonomous replacement for expert judgement.

This represents a shift from treating AI as a substitute for humans toward treating it as a collaborative partner. Jabak (2025) proposes a framework in which AI handles repetitive operations while human translators remain responsible for semantic, syntactic, pragmatic, cultural, and ethical judgement. Badah *et al.* (2026), in a comparative study of Arabic-English legal translation by university students, ChatGPT, DeepSeek, and human translators, similarly found that AI can support efficiency and structural coherence but remains limited in handling culturally and legally nuanced content. These findings favour a hybrid model in which machine efficiency is combined with human contextual expertise.

Recent research in Vietnam has highlighted the revolutionary impact of AI on the translation business and academic instruction AI is becoming an essential "tool for translation processes" (Nguyễn, 2024, p. 346). Her work demonstrates that although AI translation tools prove to be very useful in handling technical linguistic units, its function is simply "assisted translator" (Nguyễn, 2024, p. 351), not an absolute substitute. The author noted that people need to learn "collaboration with AI."

The results of these research validated the view that technology integration has moved from an optional support tool to a necessary aspect of the professional workflow. Thus, the authors proposed a collaborative translation paradigm where the machine takes care of the structural consistency and speed while human experts offer vital monitoring. Quality translation is not a decision between machine and human translation, it is not a question of choosing the most advanced translation tool. Previous research has investigated machine translation and Human-AI collaboration in translation, but, most of them are aimed at expert linguists or translators. The study on rookie translators is scarce. This research is concerned with administrative staff who possess language abilities and

expertise but lack specific training in language or translation. Moreover, the research were mostly carried out on legal papers, literature, business contracts, technical documents and other exclusively legal texts. However, few studies have investigated highly sensitive intergovernmental papers from a political and diplomatic point of view.

The limitations of this study are addressed through investigating the collaboration between VGU administrative staff and AI tools in intergovernmental document translation, and proposing an optimised translation workflow that harnesses their socio-cultural intelligence to ensure accuracy, contextual appropriateness and cultural sensitivity. The present study is grounded in a theoretical framework that integrates Bassnett's cultural approach to translation, Hutchins and Somers's human–machine translation continuum, Jabak's perspective of AI as a cooperative collaborator and Prieto Ramos's Translation Quality Assessment framework. Translation, Bassnett (2002) explains, is not merely about translating a set of words into another set of words but transmitting meaning from one linguistic and cultural system to another. The translator is a cultural mediator who considers the link among the translation process, translator competence, and the translation product in pursuit of adequacy.

3. Method

3.1 Research Design

The study employed a mixed method research design with translation quality assessment and semi-structured interviews.

The quantitative phase was to examine the quality of the translation outputs with an updated translation quality assessment rubric. The two versions of the same selected intergovernmental documents were compared, namely the translations produced by ChatGPT without human pre- and post-editing (Version A) and the translations produced by ChatGPT with human pre- and post-editing (Version B). The key criteria including correctness, competence, content, language and style were scored on a five-point scale ranging from 1=extremely poor to 5=very good.

The qualitative phase included semi-structured interviews with administrative staff. It assisted the researcher in investigating the function of human intervention in enhancing the quality of the translation outputs generated by AI in explaining and interpreting the quantitative findings. The interviews give us insights into the practical experiences, obstacles and perceptions of the participants during the use of ChatGPT in translation tasks. Hence, the mixed-methods strategy was suitable for the holistic understanding of the research problem.

3.2 Research Context and Participants

The study was implemented at the Vietnamese-German University (VGU), a public university in Vietnam founded on a government agreement between Vietnam and Germany. The participants of the study were 21 administrative staff members of VGU involved in the translation of intergovernmental documents in their everyday administrative duties. They were: 9 members of the International Office, 6 members of the Presidential Board Office, and 6 members of the Strategy and Quality Management Department.

3.3 Research Instruments

Data were collected in this study via a translation quality evaluation rubric and semi-structured interviews.

3.3.1 Translation Quality Assessment Rubric

We evaluated the quality of the translation outputs using the rating rubric of translation quality evaluation. This study used an altered version of Prieto Ramos's (2015) translation quality assessment rubric (see Appendix C). Prieto Ramos's methodology is a paradigm of quality assurance for legal translation that tries to increase predictability and eliminate subjectivity in the assessment process. This study incorporated five criteria for assessment: correctness, competence, content, language and style. The two above-mentioned translation versions were evaluated by the five criteria:

(1) Accuracy refers to the true and correct conveyance of the original intention in the target language in the translation, without mistranslation, omission, addition or distortion.

(2) It is a competence of the translation, a textual competence, not a competency of the translator. It's about choosing the correct language, the right genre, the proper venue and audience, and making sure it's culturally and pragmatically appropriate, generating natural and effective translations for intergovernmental communication. These dimensions are assessed as a single composite criterion, following Prieto Ramos's (2015) adequacy-oriented framework, in which they function as interdependent components of textual adequacy rather than separate constructs.

(3) Content checks the completeness, coherence and consistency of the translated text, confirming that the essential facts, terminology, names, institutional references and formatting are uniformly supplied so as not to mislead the reader.

(4) Language means grammatical correctness, clarity, readability and fluency. It ensures that the translation is error-free and sounds natural.

(5) Style is about appropriateness and consistency of tone, register and presentation. The study examines whether the translation preserves the professional, diplomatic and institutional tone required in intergovernmental and university writings, while being accessible to the target audience and document type.

Each criterion was rated on a scale of five, where 1 was very poor, and 5 was very excellent. Each translation is worth a total of 25 points.

3.3.2 Semi-structured Interviews

Questions for the interview were adapted from the general thoughts on artificial intelligence scale (Schepman & Rodway, 2020) with additional questions on ChatGPT assisted translation, pre-editing, post-editing and intergovernmental document translation (See Appendix B). Semi-structured interviews were conducted with six workers. The themes of the interview are focused on the effectiveness of the utilisation of ChatGPT in translation, time consuming of pre-editing and post-editing and how they dealt with unfaithful translations in bilateral agreements.

3.4 Data Collection

The data collection process was conducted in several stages, with the objective to allow a systematic comparison of AI translations without human pre-editing and post-editing (Version A) and AI translations with human pre-editing and post-editing (Version B).

The source texts were coded 'T'. In this study, the texts were numbered from T1 to T21 and were randomly assigned to participants by the researcher, with the instructions:

After receiving the source texts and instructions, the participants followed these steps:

1. Receive the source text and instructions.

2. Submit the source text directly to ChatGPT using the provided prompt.

The translation generated by ChatGPT was labeled as A.

3. Pre-edit the source text and then submit the pre-edited text to ChatGPT for translation. Then conduct post-editing. The final version, after translation and post-editing, was labeled as B.

4. Submit both translated versions to the researcher (TA and TB).

After this process, the researcher obtained 21 translated documents of Version A, labeled T1A–T21A, and 21 translated documents of Version B, labeled T1B–T21B.

3.4.1 Sample Selection

3.4.1.1 Selection of Documents

A total of 76 intergovernmental documents requiring translation by VGU administrative staff during the period from March to June 2026 were initially collected as the available document pool. The selected documents were

approximately 1-5 pages long and represented different types of institutional communication, including official correspondence, ministerial documents, University Council-related documents, strategic reports, and Vietnam-Germany cooperation documents. Documents longer than five pages, general documents without significant institutional relevance, documents with existing bilingual Vietnamese-English versions, and confidential documents were excluded. Based on predefined selection criteria, 21 documents were selected as the final sample for the ChatGPT translation experiment.

All confidential or sensitive data, such as personal names, signatures, contact details or internal reference numbers were removed or anonymised before examination. The study strictly followed the university's report ethics approval. Before conducting the study, informed consents were delivered to the translators emphasing document confidentiality, data handling, and text or institutional materials uploaded to ChatGPT had to be kept confidentially, especially seals and proper names who signed the selected governmental documents for translation had to be disclosed and handled with great care.

3.4.1.2. Selection of Translators and Interviewees

In this study, 21 administrative staff members were recruited as translators: 9 from IO, 6 from SQM and 6 from PBO at Vietnamese-German University. They were chosen through total-population sampling because they are directly engaged in translating intergovernmental documents in their everyday administrative work. They are not professional translators, but they have practical experience with official documents, institutional terminology and bilingual communication at VGU.

For the interview, 6 of 21 staff members were interviewed (2 from each designated department).

3.4.1.3 Selection of Translation Assessors

Two independent, qualified, and blinded translators raters for translation quality were invited to take part in the rating process and were selected on the basis of their academic background in translation studies and experience in translation assessment. The same standardised rubric was used by both raters to rate all translated outputs. The final score of each translation output was computed as the average of the scores of the two raters.

3.4.1.4 Selection of AI Translation Tools

In this study, ChatGPT was used as the only AI translation tool to ensure methodological consistency across all translation tasks. The translation experiment was conducted using ChatGPT-4o (OpenAI), accessed through the ChatGPT web-based platform during the period from 1 July to 10 July 2026.

3.4.1.5 Selection of a Standard Prompt

To ensure consistency and comparability in the translation process, this study used a standard prompt for all selected documents translated using ChatGPT. They are:

"Translate the attached document into English. Maintain a formal style and preserve the original structure and formatting." Or "Translate the attached document into Vietnamese. Maintain a formal style and preserve the original structure and formatting."

3.4.2 Translation Procedure

Each of the 21 selected administrative staff members was assigned one text. For each assigned text, two translation versions were produced.

Version A translations were generated by ChatGPT using the standard prompt, with no human pre- or post-editing. Documents were entered directly into ChatGPT using a standard prompt, with no modifications to the source text and no human corrections after the AI output.

Version B translations were produced through a Human–AI collaborative workflow involving human pre-editing, ChatGPT translation, and human post-editing. Before using ChatGPT, administrative staff pre-edited the source texts by clarifying ambiguous phrases, simplifying complex sentences as needed, and ensuring institutional

terminology was clear. After ChatGPT produced the translation, staff performed post-editing to enhance accuracy, terminology, tone, style, and cultural and contextual relevance.

3.4.3 Translation Assessment

Two sets of English and Vietnamese translations were collected and grouped for assessment after translation. The two translations were compared to an adapted rubric for translation quality assessment. Each assessor evaluated a total of 42 translated texts, 21 translations from Version A and 21 translations from Version B.

3.4.4 Conducting Semi-structured Interviews

Based on the results of the translation quality evaluation, semi-structured interviews were conducted (see Appendix B) with VGU's administrative staff who were in charge of translation tasks.

3.5 Data Analysis

The analysis of the data collected from the study participants to answer the study questions is described in this section. Data from the translation assessment were analysed using Microsoft Excel. Descriptive statistics were used to calculate mean scores, mean differences and percentage improvements between Version A and Version B. Paired-samples t-tests were also used to determine whether the differences between the two translation versions were statistically significant. The interview data were analysed using the thematic analysis taking into account the six-step thematic analysis framework (Braun & Clarke, 2006).

3.5.1 Quantitative Data Analysis

This part presents the analysis of the quantitative data obtained from the translation quality assessment. This section compares translation version A and translation version B. The unit of analysis for the paired-samples t-test was the individual source text, with Version A and Version B scores treated as one matched pair. Although the 21 pairs were distributed across departments, document types, and translation directions, the sample size was too small to support a reliable multilevel analysis. The paired-samples t-test was therefore retained as the primary analysis, with potential clustering effects acknowledged as a limitation (see Limitations).

The final product was analysed according to five categories: accuracy, competence, content, language and style. The criteria used to assess translation quality are shown in table 1 and adapted from Prieto Ramos (2015).

Table 1. Translation Quality Assessment Criteria Adapted from Prieto Ramos (2015)

Main Scales	Detailed Scales
Accuracy	Out of 5
Competency	Out of 5
Content	Out of 5
Language	Out of 5
Style	Out of 5
Total	/25

Table 2 below shows the positive impact of human pre-editing and post-editing. 20 of the 21 translation pairs had higher scores in Version B, 1 remained the same and 0 had lower scores. The most prominent improvement was in T6, where the score increased by 8 points, indicating the positive impact of the collaborative process on the overall quality of the translations.

Table 3. Comparison of mean scores between Version A and Version B on five assessment criteria. Results showed that Version B had higher mean scores than Version A on all criteria and total score.

Table 2. Total Score Comparison by Translated Texts

Text	Version A total /25	Version B total /25	Difference
T1	17	20	+3
T2	18	23	+5
T3	15	18	+3
T4	16	20	+4
T5	18	21	+3
T6	14	22	+8
T7	17	20	+3
T8	16	19	+3
T9	16	20	+4
T10	17	20	+3
T11	17	19	+2
T12	21	21	+0
T13	15	16	+1
T14	17	20	+3
T15	17	19	+2
T16	20	21	+1
T17	16	17	+1
T18	16	21	+5
T19	17	18	+1
T20	17	21	+4
T21	15	19	+4

Table 3. Comparison of translation quality between Version A and Version B

Scale	Version A M (SD)	Version B M (SD)	Mean difference	95% CI	t(20)	p	Cohen's dz
Accuracy	3.67 (0.58)	4.48 (0.51)	+0.81	[0.47, 1.15]	4.95	< .001	1.08
Competence	2.71 (0.64)	3.19 (0.75)	+0.48	[0.11, 0.85]	2.68	.014	0.59
Content	3.67 (0.58)	4.19 (0.68)	+0.52	[0.21, 0.83]	3.53	.002	0.77
Language	3.81 (0.51)	3.86 (0.57)	+0.05	[-0.18, 0.27]	0.44	.666	0.10
Style	2.90 (0.62)	4.05 (0.80)	+1.14	[0.68, 1.60]	5.16	< .001	1.13
Total score	16.76 (1.61)	19.76 (1.64)	+3.00	[2.19, 3.81]	7.69	< .001	1.68

Version B scored higher than Version A on all five criteria and the total score, with all differences except Language reaching statistical significance. Accuracy improved from 3.67 to 4.48 (mean difference = 0.81, 95% CI [0.47, 1.15]), $t(20) = 4.95$, $p < .001$, $dz = 1.08$, a large effect, indicating that human pre- and post-editing substantially reduced mistranslations and omissions.

Competence increased from 2.71 to 3.19 (mean difference = 0.48, 95% CI [0.11, 0.85]), $t(20) = 2.68$, $p = .014$, $dz = 0.59$, a medium-to-large effect. It remained the lowest-scoring criterion overall, with the narrowest confidence interval among the significant results, suggesting terminology choice, genre awareness, and institutional adaptation are the most resistant to improvement through human-AI collaboration.

Content improved from 3.67 to 4.19 (mean difference = 0.52, 95% CI [0.21, 0.83]), $t(20) = 3.53$, $p = .002$, $dz = 0.77$, reflecting more consistent terminology, names, and formatting after human review.

Language showed a small, non-significant increase from 3.81 to 3.86 (mean difference = 0.05, 95% CI [-0.18, 0.27]), t(20) = 0.44, p = .666, dz = 0.10. The confidence interval spans zero, confirming ChatGPT alone already produced grammatically fluent text with little added benefit from human intervention on this dimension.

Style showed the largest improvement, from 2.90 to 4.05 (mean difference = 1.14, 95% CI [0.68, 1.60]), t(20) = 5.16, p < .001, dz = 1.13, a large effect. This indicates that human post-editing primarily aligned tone and register with the formal diplomatic style expected in intergovernmental communication.

The total score increased from 16.76/25 to 19.76/25 (mean difference = 3.00, 95% CI [2.19, 3.81]), t(20) = 7.69, p < .001, dz = 1.68, a very large effect — a 17.90% relative improvement, or a 12.00-percentage-point gain when expressed as a proportion of the maximum score (67.05% to 79.05%). Overall, human-AI collaboration produced its largest gains in Style and Accuracy, moderate gains in Content and Competence, and negligible gains in Language.

5. Results and Discussion

5.1 Results

The quantitative analysis shows that the quality of translations produced by Human-AI collaboration was better than that of ChatGPT without human intervention. The overall average score improved significantly from 16.76/25 to 19.76/25 (p < .001), a 17.90% relative gain (see Table 3 for full statistics). Human-AI collaboration outperformed ChatGPT alone across nearly all quality criteria. The results indicate that ChatGPT can be useful for generating a rapid first draft translation, especially at the language level. However, the tool still requires human pre-editing and post-editing to ensure accuracy, terminology appropriateness, completeness and adherence to the formal institutional style.

Qualitative findings suggest that administrative staff found that ChatGPT was a useful tool to translate intergovernmental and institutional documents, especially as they were not professional translators. Participants reported that they saved time using ChatGPT, were able to produce first drafts of translations quickly, and had less reliance on third-party translation services. They also pointed out some limitations such as the use of inappropriate words, inconsistent terminology, inaccurate translation of idiomatic or metaphorical expressions, long and unclear sentences, and occasional additions not present in the original text. It was therefore felt that human intervention was necessary in an effort to improve the quality of the final translation. Post-editing helped in meaning correction, terminology consistency improvement and more appropriate translation. Interviews also showed that staff were more confident in post-editing English-Vietnamese translations than Vietnamese-English translations, in which they depended more on ChatGPT.

5.2 Discussion

This study examined the efficacy of Human-AI collaboration in the translation of intergovernmental documents in the Vietnamese-German University and the perception of ChatGPT as a translation assistant tool by administrative personnel. The results indicated that the overall quality of the human-AI collaborative translations was higher than that of the AI-only translations. The results showed that the human intervention improved the quality of the translations generated by ChatGPT. Style got the biggest boost, because translating the intergovernmental document requires more than grammatical fluency. It calls for a diplomatic tone, the right register and an appreciation of institutional relationships. These are areas where we can produce fluent language using the AI system, but still fall short of the communicative expectations of VGU's stakeholders.

The results of the interview show positive attitudes towards the use of ChatGPT in general, except for the time saving and convenience. However, interviewees found the chatbot not reliable enough and emphasised the need for human involvement. ChatGPT is good for generating a quick first draft, but it can't fully serve the complex needs of intergovernmental translation. But this finding should be taken with a pinch of salt, fast or fluent does not mean correct. But the results also suggest that the effectiveness of Human–AI collaboration is not equal across all contexts. Participants were more confident in post-editing English-Vietnamese translations as they could rely on their Vietnamese language competence and work experience. But for Vietnamese-English translations, some participants depended heavily on the output of the AI model and did not always feel able to evaluate the English output. This is

a key point as Human–AI collaboration requires not only a human reviewer but also enough language ability, institutional knowledge and awareness of translation quality. Otherwise, post-editing risks being superficial rather than genuinely corrective.While the study emphasises the need for pre-editing, interview data show that not all participants regularly used this strategy. Training staff in how to prepare source texts before translation and to revise afterwards is key to successful human-AI collaboration. The results show that the ChatGPT alone does not guarantee the quality translation. Rather, systematic and informed human intervention improves quality.

The results are in line with previous studies that AI translation tools can increase speed and efficiency but cannot fully replace human translators or reviewers (Ye, 2024; Nguyễn, 2024). The findings were also consistent with previous studies that AI translation may have problems with cultural meaning, idiomatic expressions, specialised terminology, and contextual nuances, as seen in the studies of Hussein and Kadhim (2024) and Nguyễn Thị Thu Trang and Lê Thị Ngọc Hà (2025). The findings also support Quah's (2006) view that technology cannot fully replace human translators as human languages are multi-layered in meaning and use. This also supports Bassnett's view that translation is not only transferring of words but transferring of meaning across cultural systems. In the intergovernmental context of VGU, the human reviewer not only corrects linguistic mistakes but also functions as a cultural and institutional intermediary. Moreover, the findings support Jabak's view of AI as a collaborative partner, where the best translation quality was achieved not only by ChatGPT, but through a collaborative process that brought human judgement to bear on supplementing the output generated by the AI.

The present study, however, also extends previous research by focusing on administrative staff, rather than on professional translators or translation students. This is important because administrative staff have the institutional knowledge and experience of official documents, but may not have training in translation. The study thus shows both the promise and the danger of Human–AI collaboration in a real-world workplace environment. First of all, the findings indicate that the non-professional translators can accomplish the translation tasks more efficiently with the assistance of ChatGPT. But if the staff becomes too dependent on the power of the tool, particularly for Vietnamese–English translation, mistakes can be missed. The results suggest that the use of translation tools such as the present version of the chatbot is encouraged, but that they cannot substitute human intervention. The study shows that the collaboration between human and artificial intelligence can improve the quality of translation but only when the human intervention is critical, systematic and backed up by sufficient linguistic and institutional knowledge. In an intergovernmental context, the work of translation still depends largely on human judgement.

5.3 Implications

The findings of this study have several important theoretical and practical implications for the use of the translation of intergovernmental and institutional documents by using the chatbot, especially in the case of a Vietnamese-German University.

The present study contributes theoretically to the growing literature on human–AI collaboration in translation. The case is made that AI translation tools should not be seen as replacements for human translators. The current study extends previous research by investigating administrative staff rather than professional translators or translation students. This is important because administrative staff often handle official intergovernmental documents and may not have professional translation training.

The results indicate that ChatGPT could be a helpful support tool for VGU administrative staff, particularly for quickly generating initial translation drafts and alleviating the workload but it is worth noted that said translation work does not rely on the translation of the ChatGPT alone. This is particularly relevant in the VGU context, as intergovernmental documents may include ministries, German partners, the University Council and other institutional stakeholders. Small errors in meaning, terminology, tone or style can cause misunderstandings or compromise the professionalism of the university. Staff should therefore review carefully for accuracy, consistency of terminology, sentence structure, institutional tone and cultural appropriateness. Based on the results of this study, we are able to propose a Human-AI translation workflow to the administrative staff in VGU.

The workflow is shown in Figure 1 as consisting of three main stages: pre-editing, AI processing and post-editing. In the pre-editing phase, staff prepare the source text by checking key terms, clarifying unclear content and re-organising complex sentence structures. The AI processing stage involves staff using Chat GPT to create the first draft. The translation is then checked by staff in the post-editing stage, who review the translation for word choice,

phrasing, syntactic structure, meaning, terminology and institutional style. In English-Vietnamese translation, staff may utilise their Vietnamese language skills and institutional experience to make the translation more natural and appropriate. Extra checking by staff may be needed for Vietnamese-English translation, as they may not always feel confident enough to fully assess the English output, and the suggested tool is Grammarly.

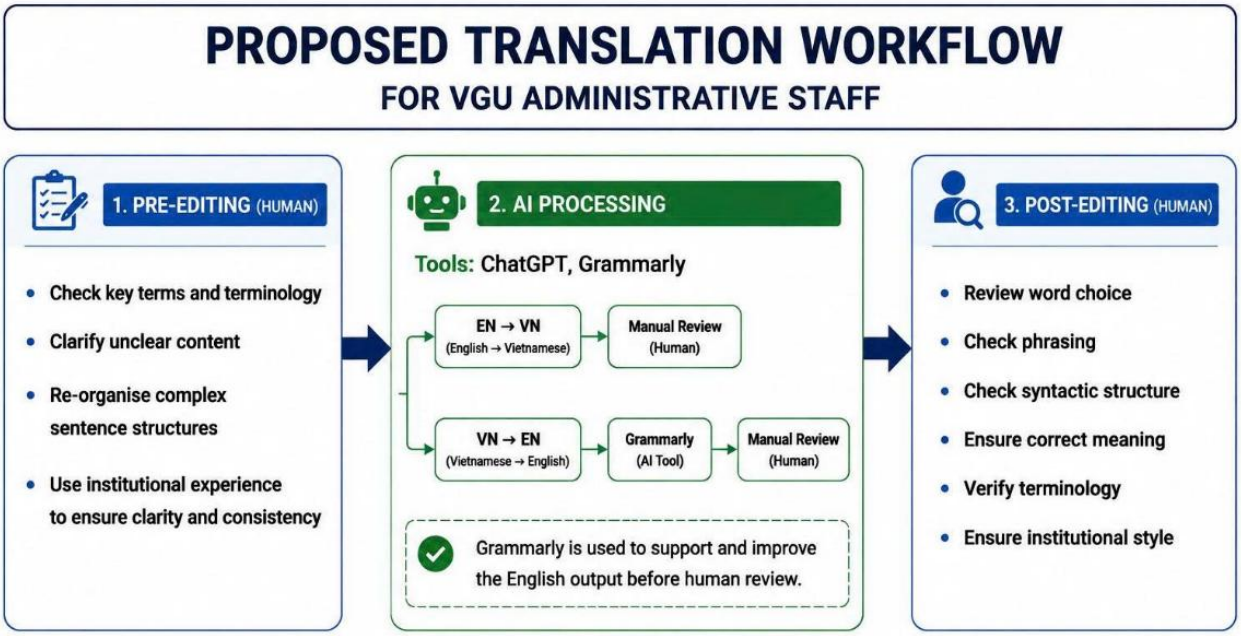


Figure 1. Proposed Human–AI Collaborative Translation Workflow for VGU Administrative Staff.

The research also indicates the need for training of administrative staff while working with practices of AI-assisted translation. The training should be on how to use ChatGPT and also on how to review and edit the translations of the AI. VGU could consider establishing internal guidelines for the use of AI-assisted translation to improve human-AI collaboration in translating intergovernmental documents. The guidelines may include standard prompts, approved terminology, style specifications for certain documents and a post-editing checklist, which can assist in achieving greater accuracy and consistency in translations between departments. Overall, the implications of the study indicate the significant potential of ChatGPT to assist translation work at VGU, but only if embedded in a systematic Human-AI collaborative workflow. Intergovernmental communication is another domain where human judgement still remains at the core of the translation process.

6. Conclusion

AI appears to be playing an increasingly important role in translation practices at VGU. The paper has demonstrated the importance of AI tools as aids for administrative personnel who may have extensive institutional knowledge and practical experience but no formal translation training. Human intervention remains necessary in the pre-editing and post-editing phases to ensure that documents are not only linguistically acceptable but also institutionally appropriate. The collaborative framework can therefore help staff work more confidently with politically sensitive and complex intergovernmental documents while balancing operational efficiency with contextual judgement. The findings should not be interpreted as evidence that a specific commercial language-support tool or a particular national communication style will automatically ensure translation quality; rather, such tools and cultural assumptions require independent validation for the intended document type and audience. Several limitations of this study exist. First, the study was conducted at one university and involved only administrative staff from selected departments. Second, translation quality was evaluated using selected intergovernmental documents and one AI system, ChatGPT. Future research should include more departments, larger document samples, and comparisons across multiple AI translation systems. Given the rapid development of generative-AI translation technologies, future studies should also update the evidence base regularly with recent peer-reviewed research.

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Yes

Conflict of interest

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