

PRAGMATIC ERRORS AND ADEQUACY ISSUES IN HUMAN AND AI-GENERATED TRANSLATIONS OF ACADEMIC TEXTS

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Abstract: The increasing use of artificial intelligence (AI) in academic translation has raised important questions about translation quality beyond grammatical accuracy and lexical fluency. In particular, the pragmatic dimension of translation, which involves the preservation of context-dependent meaning, authorial stance, and discourse conventions, remains underexplored in comparative human and AI translation research. This study investigates pragmatic errors and their impact on translational adequacy in human and AI-generated translations of academic texts. Adopting a qualitative linguopragmatic approach, the study analyses a corpus of academic research article abstracts translated by human translators and an AI-based translation system. The analysis focuses on key pragmatic features, including implicature, hedging and stance, deixis, and register and discourse organisation. The findings reveal systematic differences between human and AI-generated translations. While AI-generated translations demonstrate high levels of formal fluency, they exhibit recurrent pragmatic weaknesses, such as over-explicitation, inappropriate stance calibration, and discourse-level misalignment, which cumulatively reduce translational adequacy in academic contexts. Human translations, although not free from pragmatic deviation, show greater sensitivity to communicative intent and academic discourse norms through context-aware and strategic decision-making. The study contributes to translation quality assessment by highlighting pragmatic errors as a crucial indicator of adequacy and underscores the continued importance of pragmatic competence in AI-assisted academic translation and translator education.

Keywords: pragmatic errors; translational adequacy; AI-generated translation; academic discourse; human–AI translation comparison

Anotatsiya. Akademik tarjimada sun'iy intellektdan (AI) tobora ko'payib borayotgani tarjima sifati haqida grammatik aniqlik va leksik ravonlikdan tashqari muhim savollarni tug'dirdi. Xususan, kontekstga bog'liq bo'lgan ma'no, mualliflik pozitsiyasi va nutq konventsiyalarini saqlashni o'z ichiga olgan tarjimaning pragmatik o'lchovi qiyosiy inson va sun'iy intellekt tarjimasi tadqiqotlarida yetarlicha o'rganilmaganligicha qolmoqda. Ushbu tadqiqot akademik matnlarning inson va AI tomonidan yaratilgan tarjimalarida pragmatik xatolar va ularning tarjima adekvatligiga ta'sirini o'rganadi. Sifatli lingvopragmatik yondashuvni qo'llagan holda, tadqiqot inson tarjimonlari tomonidan tarjima qilingan akademik tadqiqot maqolalari tezislari korpusini va AIga asoslangan tarjima tizimini tahlil qiladi. Tahlil asosiy pragmatik xususiyatlarga, jumladan implikasiya, himoyalaniish va pozitsiya, deyxis, ro'yxatga olish va nutqni tashkil etishga qaratilgan. Topilmalar inson va AI tomonidan yaratilgan tarjimalar o'rtasidagi tizimli farqlarni ochib beradi. AI tomonidan yaratilgan tarjimalar yuqori darajadagi rasmiy ravonlikni namoyish qilsa-da, ular haddan tashqari tushuntirish, noto'g'ri pozitsiyani kalibrlash va nutq darajasidagi noto'g'ri tartibsizlik kabi takrorlanuvchi pragmatik zaifliklarni ko'rsatadi, bu esa akademik kontekstda tarjima adekvatligini jamlab kamaytiradi. Inson tarjimalari, pragmatik og'ishlardan xoli bo'lmasa ham, kontekstdan xabardor va strategik qarorlar qabul qilish orqali kommunikativ niyat va akademik nutq me'yorlariga nisbatan ko'proq sezgirlikni ko'rsatadi. Tadqiqot adekvatlikning hal qiluvchi ko'rsatkichi sifatida pragmatik xatolarni ta'kidlab, tarjima sifatini baholashga hissa qo'shadi va AI yordamida akademik tarjima va tarjimon ta'limida pragmatik kompetentsiyaning davom etayotgan muhimligini ta'kidlaydi.

Kalit so'zlar: pragmatik xatolar; tarjimaning adekvatligi; AI tomonidan yaratilgan tarjima; akademik nutq; inson-AI tarjimasini taqqoslash

Аннотация: Растущее использование искусственного интеллекта (ИИ) в академическом переводе поднимает важные вопросы о качестве перевода, выходящие за рамки грамматической точности и лексической беглости. В частности, прагматический аспект перевода, включающий сохранение контекстно-зависимого значения, авторской позиции и дискурсивных конвенций, остается недостаточно изученным в сравнительных исследованиях перевода, выполненного человеком и с помощью ИИ. В данном исследовании изучаются прагматические ошибки и их

влияние на адекватность перевода в переводах академических текстов, выполненных человеком и с помощью ИИ. Используя качественный лингвистопрагматический подход, исследование анализирует корпус аннотаций научных статей, переведенных переводчиками-людьми и системой перевода на основе ИИ. Анализ фокусируется на ключевых прагматических особенностях, включая импликацию, хеджирование и позицию, дейксис, а также регистр и организацию дискурса. Результаты выявляют систематические различия между переводами, выполненными человеком и с помощью ИИ. Хотя переводы, созданные с помощью ИИ, демонстрируют высокий уровень формальной беглости, они часто имеют прагматические недостатки, такие как излишняя детализация, неадекватная калибровка позиции и несоответствие на уровне дискурса, что в совокупности снижает адекватность перевода в академическом контексте. Переводы, выполненные человеком, хотя и не свободны от прагматических отклонений, демонстрируют большую чувствительность к коммуникативному намерению и нормам академического дискурса благодаря контекстно-ориентированному и стратегическому принятию решений. Данное исследование вносит вклад в оценку качества перевода, подчеркивая прагматические ошибки как важнейший показатель адекватности и акцентируя внимание на сохраняющейся важности прагматической компетенции в академическом переводе с использованием ИИ и в образовании переводчиков.

Ключевые слова: прагматические ошибки; адекватность перевода; перевод, созданный с помощью ИИ; академический дискурс; сравнение переводов, выполненных человеком и ИИ.

Introduction

The rapid development of artificial intelligence (AI) technologies has significantly reshaped contemporary translation practices, particularly in academic and professional domains. AI-based translation systems are increasingly employed to translate scholarly texts due to their speed, accessibility, and growing linguistic fluency. As a result, AI-generated translations are often perceived as functionally equivalent to human translations, especially in terms of grammatical accuracy and lexical appropriateness, which has contributed to their widespread adoption in academic settings (Koehn, 2020; Moorkens, 2018). However, growing evidence suggests that formal correctness alone is insufficient for evaluating translation quality, particularly in academic discourse, where meaning is frequently conveyed through implicit, pragmatic, and discourse-related cues. Consequently, concerns remain regarding the extent to which AI-based systems can adequately meet the pragmatic and contextual demands of academic translation.

Academic texts are characterised by a high degree of pragmatic density, as authors rely on implicit meaning, hedging, stance markers, and discourse organisation to position claims and manage reader expectations (Hyland, 2005). In translation, failure to preserve these pragmatic features may result in shifts in authorial stance, distortion of communicative intent, or reduced acceptability of the target text within the academic community (House, 2015). Such deviations are commonly referred to as pragmatic errors and are particularly consequential in academic discourse, where subtle pragmatic cues play a central role in meaning construction.

While a substantial body of research has examined machine translation and AI-assisted translation quality, much of this work has focused on surface-level indicators such as fluency, accuracy, and lexical equivalence (O’Brien, 2019). Comparatively little attention has been paid to the pragmatic dimension of AI-generated translations, and studies that do address pragmatics often do so in a fragmented or impressionistic manner. As a result, the relationship between pragmatic errors and translational adequacy in AI-generated academic translations remains insufficiently explored.

Against this background, the present study investigates pragmatic errors and adequacy issues in human and AI-generated translations of academic texts. By adopting a qualitative linguopragmatic approach, the study aims to identify recurrent types of pragmatic error and to examine how such errors affect translational adequacy across translation modes. Through a comparative analysis, the study seeks to contribute to translation quality assessment in the era of artificial intelligence and to highlight the continued importance of pragmatic competence in academic translation.

Literature Review

Pragmatics, broadly understood as the study of meaning in context, provides essential insights into how communicative intent is constructed and interpreted in discourse. Classical pragmatic theory, particularly the work of Grice (1975), emphasises that meaning often extends beyond what is explicitly stated through implicature and cooperative principles, while subsequent developments by Levinson (1983) further systematised the role of context-dependent inference in communication. In translation studies, these insights have led scholars to argue that translation quality cannot be adequately evaluated

without considering pragmatic equivalence, as translation involves not only the transfer of propositional content but also the reconstruction of speaker intention, discourse function, and contextual meaning in the target language (Hatim & Mason, 1997). This perspective is particularly relevant in academic translation, where pragmatic features such as hedging and discourse organisation play a central role in shaping meaning, credibility, and disciplinary alignment.

Traditionally, translation errors have been conceptualised primarily in terms of grammatical, lexical, or semantic inaccuracies. However, research within functionalist and discourse-oriented approaches has increasingly highlighted the importance of pragmatic errors, which arise when context-dependent meaning or communicative intent is inadequately transferred (Nord, 1997). From a discourse perspective, such pragmatic errors may involve shifts in stance, politeness, or cohesion that subtly alter how a text is interpreted by its intended audience (Baker, 2018). Descriptive translation studies further support this view by framing pragmatic deviations as patterned phenomena shaped by translational norms rather than isolated mistakes (Toury, 1995). This perspective is particularly useful for analysing AI-generated translations, where pragmatic tendencies often emerge systematically rather than randomly.

The concept of adequacy has long occupied a central position in translation theory, although its interpretation varies across theoretical traditions. Early equivalence-based models prioritised formal correspondence between source and target texts, whereas later functional approaches shifted the focus toward communicative effectiveness. A key turning point was the notion of dynamic equivalence proposed by Nida (1964), which foregrounded audience response and pragmatic effect. Text-type and functional models further reinforced the pragmatic dimension of adequacy: Reiss (2000) emphasised the role of text function in determining translation quality, while House (2015) conceptualised adequacy in terms of pragmatic equivalence and contextual appropriateness. In academic translation, adequacy therefore involves preserving communicative intent, authorial stance, and disciplinary norms, rather than merely reproducing linguistic form.

Recent advances in neural machine translation and large language models have led to substantial improvements in the fluency and coherence of AI-generated translations. Studies have shown that AI systems can produce translations that are grammatically accurate and lexically natural, particularly in controlled domains, which has contributed to their increasing use in translating academic texts and supporting multilingual scholarly communication (Koehn, 2020). Nevertheless, existing research has largely focused on quantitative evaluation metrics and surface-level linguistic features, often overlooking pragmatic and discourse-level considerations (Moorkens, 2018). Although some studies acknowledge stylistic or pragmatic limitations in AI-generated translations, these aspects are rarely examined within systematic theoretical frameworks.

A growing body of research suggests that AI-generated translations face persistent challenges in handling pragmatic nuance, particularly in complex discourse contexts. Because AI systems rely on probabilistic pattern recognition rather than intentional reasoning, they may struggle with implicature, stance calibration, and discourse coherence (Kenny, 2022). Empirical observations further indicate that AI-generated translations often exhibit pragmatic over-explicitation, inappropriate hedging, and register inconsistency, which can result in shifts in authorial voice and reduced academic acceptability (O’Brien, 2019). These tendencies are especially problematic in academic discourse, where pragmatic subtlety plays a central role in meaning construction and disciplinary alignment.

The reviewed literature demonstrates that pragmatics is a fundamental component of translation quality and that translational adequacy is closely linked to the successful transfer of context-dependent meaning. While translation studies offer well-established frameworks for analysing pragmatic phenomena in human translation, research on AI-generated translation has largely neglected this dimension, especially in academic contexts. Consequently, there remains a clear need for a comparative linguopragmatic investigation of pragmatic errors and adequacy issues in human and AI-generated translations of academic texts, which the present study seeks to address.

Methodology

This study adopts a qualitative comparative research design to investigate pragmatic errors and their impact on translational adequacy in human and AI-generated translations of academic texts. A qualitative approach is particularly appropriate for analysing pragmatic phenomena, which are inherently context-dependent and cannot be reliably captured through quantitative metrics alone (House, 2015). Rather than evaluating translation quality through numerical ranking, the study follows a descriptive orientation and focuses on identifying recurrent patterns of pragmatic deviation and

interpreting their implications for translational adequacy, in line with descriptive traditions in translation studies (Toury, 1995).

The corpus consists of a set of academic texts selected from peer-reviewed journals. To ensure pragmatic consistency, the study focuses on a single academic genre, namely research article abstracts. Abstracts were chosen because they exhibit a high concentration of pragmatic features, including hedging, evaluative language, and discourse structuring devices, which are central to academic communication (Hyland, 2005). All source texts belong to closely related disciplines within the humanities and social sciences. This disciplinary focus helps minimise variation in rhetorical and pragmatic conventions and allows for more reliable comparison across translations. The analysis is restricted to one-directional translation from the source language into the target language. Limiting the study to a single translation direction enables tighter methodological control and reduces variability associated with asymmetric pragmatic norms across languages. Such control is particularly important in pragmatics-oriented translation research, where contextual interpretation plays a central role (Hatim & Mason, 1997).

The corpus comprises 10–15 academic abstracts, each translated independently by a human translator and by an AI system. This corpus size is consistent with qualitative studies in translation pragmatics, where analytical depth and interpretative richness take precedence over statistical generalisation (Nord, 1997). The limited dataset allows for close examination of pragmatic features while maintaining analytical coherence.

Human translations were produced by experienced translators or advanced-level translators with formal training in academic translation. Translators were instructed to produce target texts suitable for academic publication and were explicitly asked not to use AI-assisted tools during the translation process. This condition was imposed to ensure a clear methodological distinction between human and AI translation strategies, in line with established practices in comparative translation research (Baker, 2018). But AI-generated translations were produced using a single AI-based translation system under controlled conditions. The same source texts were used as input, and no post-editing was applied to the AI-generated output. The system was prompted only to translate the texts, without additional stylistic or contextual instructions, in order to capture its default translation behaviour. This approach reflects common practice in studies examining the baseline performance of AI translation systems (Koehn, 2020).

The analysis is grounded in a linguopragmatic framework that views pragmatic meaning as an essential component of translational adequacy. Pragmatic errors were identified through systematic comparison of source texts and their corresponding translations, with attention to implicit meaning, authorial stance, and academic discourse conventions. This approach draws on pragmatic theory and discourse-oriented translation studies, which emphasise context-sensitive interpretation over formal equivalence (Levinson, 1983).

Pragmatic errors were identified in instances where the translation failed to preserve the intended pragmatic function of the source text. Such instances included loss or distortion of implicature, inappropriate stance marking, and deviations from expected register. The analysis considered pragmatic meaning at both sentence and discourse levels, reflecting the multidimensional nature of academic communication (Grice, 1975). For analytical clarity, pragmatic errors were grouped into four main categories: implicature-related errors, hedging and stance errors, deixis-related errors, and register and discourse errors. These categories were derived from established work in pragmatics and translation studies and adapted to the academic discourse context (House, 2015; Hatim & Mason, 1997).

Translational adequacy was assessed qualitatively, with emphasis on the preservation of communicative intent and contextual appropriateness in the target academic context. Rather than assigning numerical scores, adequacy was evaluated through interpretative analysis grounded in functional and discourse-oriented models of translation quality (Reiss, 2000). This approach allows pragmatic effects to be examined in relation to genre-specific norms and reader expectations. The analysis followed a systematic procedure. First, source texts were examined to identify key pragmatic features characteristic of academic discourse. Second, human and AI-generated translations were analysed comparatively. Third, pragmatic errors were identified and categorised according to the analytical framework. Finally, the impact of these errors on translational adequacy was interpreted, following established practices in qualitative translation analysis (Toury, 1995).

Reliability was enhanced through consistent application of the analytical framework and clearly defined error categories. Validity was supported by grounding analytical decisions in established theoretical constructs and by providing textual evidence to justify interpretations. Such measures are

commonly recommended in qualitative translation research to ensure analytical transparency and rigour (Baker, 2018). All source texts used in the study were publicly available academic materials employed solely for research purposes. No personal or sensitive data were involved, and no direct human subjects participated in the research. Accordingly, the study complied with standard ethical guidelines for linguistic and translation research.

Analysis and Results

This section presents a comparative analysis of pragmatic errors identified in human and AI-generated translations of academic texts. The analysis is organised according to the pragmatic error categories established in the methodological framework. The aim is not to quantify errors, but to reveal recurring patterns and to interpret their effects on translational adequacy, following qualitative traditions in translation studies (Toury, 1995).

Implicature-related errors represent one of the most salient areas of divergence between human and AI-generated translations. In academic discourse, implicature is frequently used to convey evaluation, limitation, or caution indirectly, allowing authors to maintain an appropriate scholarly stance (Grice, 1975). The analysis shows that AI-generated translations display a systematic tendency toward explicitation, whereby implicit evaluative meanings present in the source texts are rendered explicitly in the target language, resulting in shifts in pragmatic force. This tendency aligns with observations in machine translation research that automated systems favour explicit and unambiguous output (Koehn, 2020); however, in academic contexts, such explicitation can lead to unintended strengthening of claims and reduced pragmatic adequacy. Human translations, in contrast, demonstrate greater sensitivity to implicature, as translators generally preserve indirectness through equivalent pragmatic structures or contextually appropriate reformulation. When implicature-related errors do occur in human translations, they tend to involve partial loss rather than complete elimination of implicit meaning and often reflect strategic simplification rather than misinterpretation, supporting discourse-oriented views that human translators actively negotiate pragmatic meaning rather than mechanically reproducing linguistic form (Hatim & Mason, 1997).

Hedging is a core feature of academic discourse, enabling authors to express epistemic caution and align their claims with disciplinary norms (Hyland, 2005). The analysis reveals significant differences between human and AI-generated translations in the handling of hedging and stance. AI-generated translations frequently exhibit either under-hedging or over-hedging: in cases of under-hedging, modal verbs and adverbial markers of uncertainty are omitted or replaced with more assertive expressions, leading to unintended increases in authorial certainty, whereas over-hedging occurs when AI systems introduce additional hedging devices not present in the source text, resulting in weakened argumentative force. These patterns suggest that AI systems tend to reproduce hedging markers as surface features rather than interpreting their pragmatic function within the discourse. Human translations, by contrast, generally show greater control over stance calibration, as translators tend to preserve the level of certainty expressed in the source text while adapting hedging devices to target-language conventions. Deviations in human translations are more likely to reflect conscious stylistic choices or disciplinary norms than pragmatic misinterpretation, supporting the view that pragmatic competence involves genre awareness and contextual reasoning beyond formal linguistic knowledge (House, 2015).

Deictic expressions play an important role in structuring academic discourse and guiding reader interpretation. The analysis indicates that AI-generated translations encounter difficulties in handling deixis when reference depends on broader discourse context rather than local sentence structure (Levinson, 1983). In AI-generated translations, deixis-related errors often involve ambiguous or shifted temporal and textual reference, with expressions referring to the organisation of the text or to previously mentioned arguments occasionally rendered in ways that obscure their referents or weaken discourse cohesion. Although such errors may not severely disrupt comprehension at the sentence level, they reduce clarity and coherence at the text level, thereby affecting pragmatic adequacy. Human translations, by contrast, exhibit fewer deixis-related errors and demonstrate greater awareness of discourse organisation, as translators frequently adjust deictic expressions to align with target-language academic conventions and enhance textual coherence. This finding reinforces the importance of global text processing in pragmatic adequacy, a capacity that remains limited in current AI translation systems.

Register control and discourse organisation are essential to academic translation, as they ensure consistency with genre-specific norms. The analysis reveals that AI-generated translations occasionally display register inconsistency, alternating between overly formal and unexpectedly informal expressions within the same text, and that discourse markers are sometimes misused or omitted, resulting in

weakened logical connections between ideas. Such discourse-level deviations have been noted in previous research on AI-assisted translation, which shows that stylistic fluency does not always guarantee genre appropriateness (O’Brien, 2019). In the present data, these issues contribute cumulatively to reduced translational adequacy, particularly in texts where argument structure and coherence are central. Human translations, by contrast, generally maintain a stable academic register and employ discourse markers strategically to guide readers through the argument; register-related deviations in human translations are infrequent and typically involve minor stylistic variation rather than fundamental pragmatic mismatch.

Across all pragmatic categories, the findings reveal systematic differences between human and AI-generated translations. Pragmatic errors in AI-generated translations tend to co-occur, with implicature loss, stance misalignment, and discourse-level issues reinforcing one another, and these cumulative effects result in noticeable adequacy loss even when individual errors appear minor. Human translations, while not entirely free from pragmatic deviation, display greater overall adequacy due to the use of compensatory strategies and context-sensitive decision-making. This contrast aligns with functionalist views of translation, which emphasise communicative purpose and discourse function over formal equivalence (Nord, 1997).

The analysis demonstrates that pragmatic errors constitute a key factor distinguishing human and AI-generated translations of academic texts. While AI-generated translations achieve high levels of grammatical fluency, they exhibit recurrent pragmatic weaknesses that affect adequacy, particularly in relation to implicature, hedging, deixis, and discourse organisation. Human translations show greater pragmatic sensitivity and produce target texts that align more closely with academic discourse norms.

Discussion

The findings of this study provide strong evidence that pragmatic competence represents a central point of divergence between human and AI-generated translations of academic texts. Although AI-generated translations often demonstrate high levels of grammatical accuracy and surface-level fluency, the analysis reveals systematic pragmatic weaknesses that directly affect translational adequacy. These results support long-standing arguments in translation studies that quality assessment cannot be reduced to formal linguistic correctness alone, but must account for context-dependent meaning and communicative intent (House, 2015).

One of the most salient findings concerns implicature-related errors in AI-generated translations. The observed tendency toward explicitation aligns with previous research in machine translation, which suggests that automated systems favour explicit and unambiguous formulations due to their probabilistic processing mechanisms (Koehn, 2020). However, from a pragmatic perspective, implicature plays a strategic role in academic discourse, allowing authors to convey evaluation, limitation, and caution without overt assertion (Grice, 1975). By systematically rendering implicit meaning explicit, AI-generated translations risk altering the pragmatic force of academic claims, thereby reducing adequacy within disciplinary norms. Human translators, in contrast, appear better able to recognise when implicitness is pragmatically motivated and to preserve it through contextually appropriate reformulation.

Differences in the handling of hedging and stance further highlight the limitations of AI-generated translation in academic contexts. Academic writing relies heavily on hedging to position claims cautiously and to signal epistemic responsibility (Hyland, 2005). The results indicate that AI systems struggle to calibrate stance appropriately, exhibiting both under-hedging and over-hedging. This finding supports the view that AI-generated output reproduces hedging markers as formal features rather than as pragmatically motivated choices. Human translators, drawing on genre knowledge and discourse awareness, generally maintain a more balanced representation of authorial stance. This contrast reinforces arguments that pragmatic competence involves interpretive reasoning that extends beyond surface linguistic patterns (Levinson, 1983).

Deixis-related errors observed in AI-generated translations further underscore the challenges AI systems face in managing discourse-level reference. Academic texts frequently rely on textual and temporal deixis to guide readers through complex argumentation, and when such references are misaligned, coherence and reader orientation may be compromised. The findings suggest that while AI systems perform adequately at the sentence level, they remain limited in handling global discourse relations, a capacity identified as central to pragmatic competence in both pragmatics and discourse-oriented translation research (Hatim & Mason, 1997). Register and discourse-level errors provide additional insight into these pragmatic limitations: although AI systems are generally capable of producing formally appropriate academic language, inconsistencies in register and discourse marker use

were observed. Such deviations, while subtle, cumulatively reduce the acceptability of translated texts in academic contexts, echoing concerns raised in previous studies of AI-assisted translation that stylistic fluency does not necessarily equate to genre appropriateness (O’Brien, 2019). Human translators, by contrast, demonstrate greater control over genre-specific conventions and discourse structuring, reinforcing the role of experiential knowledge and discourse awareness in academic translation.

Taken together, these findings indicate that pragmatic errors in AI-generated translations are not random but systematic, reflecting fundamental differences in how meaning is processed and produced. While AI systems rely on pattern recognition and statistical likelihood, enabling fluent output, this mode of processing limits sensitivity to communicative intention and contextual nuance. Human translators, by contrast, even when deviating pragmatically, tend to do so strategically, compensating for local shifts through broader discourse coherence. This distinction aligns with functionalist approaches to translation, which emphasise communicative purpose and contextual appropriateness over formal equivalence (Nord, 1997). From a theoretical perspective, the findings reinforce the view that translational adequacy is inherently pragmatic, emerging not from formal correspondence alone but from the successful transfer of communicative intent and discourse function within the target academic context. Pragmatic errors therefore provide a valuable analytical lens for examining adequacy loss, particularly in comparative studies involving AI-generated translation. Methodologically, the study demonstrates the usefulness of qualitative linguopragmatic analysis in revealing dimensions of translation quality that remain largely invisible to the quantitative evaluation metrics commonly employed in AI translation research. The results also carry important pedagogical implications: as AI tools become increasingly integrated into academic translation practices, there is a risk that users may overestimate pragmatic competence on the basis of surface fluency alone, underscoring the need for continued emphasis on pragmatic awareness, discourse competence, and critical evaluation of AI-assisted output in translator training programmes.

Conclusion

This study set out to investigate pragmatic errors and their impact on translational adequacy in human and AI-generated translations of academic texts. Adopting a qualitative linguopragmatic approach, the analysis moved beyond surface-level measures of translation quality to examine how context-dependent meaning, authorial stance, and academic discourse conventions are negotiated across different translation modes. The findings demonstrate that pragmatic competence constitutes a critical area of divergence between human and AI-generated translations. While AI-generated translations are often fluent and grammatically accurate, they exhibit recurrent pragmatic weaknesses, particularly in relation to implicature, hedging, deixis, and discourse organisation. These pragmatic deviations tend to result in cumulative adequacy loss, as subtle shifts in stance, explicitness, and coherence alter the communicative intent of the source texts. Human translations, although not entirely free from pragmatic error, generally preserve pragmatic meaning more effectively through context-aware decision-making and strategic adaptation to academic norms.

From a theoretical perspective, the study reinforces the view that translational adequacy is fundamentally a pragmatic construct. Adequacy cannot be fully assessed through lexical or syntactic correspondence alone, but must account for the successful transfer of communicative intent and discourse function within the target academic context; in this respect, pragmatic errors emerge as a valuable analytical lens for examining translation quality, particularly in comparative studies involving AI-generated output. Methodologically, the study demonstrates the value of qualitative linguopragmatic analysis in revealing aspects of translation quality that remain underexplored in predominantly quantitative evaluations of AI translation systems, and by systematically categorising pragmatic errors and examining their effects on adequacy, it offers a framework that can be applied and extended in future research.

The findings also have important practical implications for translator education and the use of AI tools in academic translation. While AI-generated translations may serve as a useful resource for preliminary drafting or support, they require critical human intervention to ensure pragmatic appropriateness. Translator training programmes should therefore continue to emphasise pragmatic awareness and discourse competence, particularly in academic contexts where subtle pragmatic cues play a decisive role. At the same time, several limitations of the study should be acknowledged: the analysis was based on a relatively small corpus and focused on a single academic genre and translation direction. Future research could expand the dataset, incorporate bidirectional translation, or examine disciplinary variation in pragmatic behaviour, all of which are particularly relevant for extended doctoral research and large-scale corpus-based studies. In conclusion, this study contributes to ongoing discussions on AI-assisted translation by demonstrating that high formal fluency does not guarantee

pragmatic adequacy; as AI tools become increasingly integrated into academic translation practices, systematic attention to pragmatic competence will remain essential for ensuring translation quality and communicative effectiveness.

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