

A comparative evaluation of machine translation vs. human translation for legal texts: A case study of translation between English and Arabic

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Abstract: This study examines the comparative accuracy and fluency of Neural Machine Translations (NMTs) and Language Model-based translations (LMBTs), represented by ChatGPT and Google Translate (GT), in legal texts translations. Texts from Farahaty's "Arabic-English-Arabic Legal Translation", sourced from primary texts cited in the book and translated by scholars such as Hatim, Shunnaq, Buckley, and Farahaty were used as

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benchmarks for human translation (HT). Sixteen diverse texts encompassing various legal discourse subgenres were selected for analysis, with all Arabic in-text examples transliterated using the Library of Congress (LOC) system. Qualitative analysis was conducted to assess the extent to which NMTs and LLMs match HT in accuracy and fluency. The study also investigated the similarities and differences between ChatGPT and GT in their translation outputs. Findings highlight HT's superiority in producing precise, stylistically appropriate translations, compared to the challenges faced by NMTs and LLMs in capturing legal terminology and subtle linguistic nuances. Despite variations, both ChatGPT and GT demonstrate efficiency and context sensitivity, suggesting their potential as valuable tools when coupled with human post-editing. The study concludes by advocating for a hybrid approach that leverages the strengths of automated translation systems and human expertise to enhance cross-linguistic legal communication.

Keywords: machine translation; neural machine translation; legal translation; ChatGPT; Google Translate; human translation; Arabic-English translation.

Introduction

Translation of legal texts has often been “considered one of the most challenging areas of contemporary translation practice” (Killman, 2023, p. 485). Unlike other types of translation, legal translation is highly dependent on context. To elaborate, legal terminologies may change meaning depending on the situation in which they occur; that is, a legal term may be interpreted differently in different contexts depending on the surrounding set of circumstances (Killman, 2014; 2017). For example, the term “consideration” in contract law refers to something of value exchanged between parties, whereas in criminal law, “consideration” could mean the act of thinking carefully about a matter before making a decision. Similarly, “possession” in property law differs from its meaning in criminal law. Additionally, the semantics, morphology, and syntax of legal texts may be rendered in human translation according to the legal tradition, system, or stylistic expectations (Alcaraz & Hughes, 2002). These challenges/constraints

have led scholars to believe that Machine Translation (MT) for legal texts is not recommended (Killman, 2014).

However, advances in MT have led some researchers to argue for its effectiveness in translating legal texts from various languages (Sutskever et al., 2014; Wilks, 2008), despite the need for post-editing, in some cases (Varga & Grlić, 2023). This belief is likely due to the capabilities that Neural Machine Translation (NMT) and recently developed Large Language Models (LLMs) offer in modeling how natural languages work. The strength of NMT lies in its ability to learn directly, end-to-end, the mapping from input text to corresponding output text (Kovács, 2022; Bahdanau et al., 2015). Also, LLMs, such as ChatGPT, have outperformed advanced NMT engines such as Google Translate and are now able to produce natural, fluent, and translations akin to those produced by human translators (Hendy et al., 2023). However, NMT and LLMs may fall short when translating rare or infrequent words (Wu et al., 2016; Hendy et al., 2023), which is probably the case for Arabic texts where unrecorded different dialects, lexical items, and syntactic features may hinder accurate output. (Baniata et al., 2021).

NMT has focused on high-resource translation pairs, such as French-English and German-English, which have many parallel datasets. Nevertheless, most language pairs in the world, including Arabic-English, may not have large parallel datasets (Baniata et al., 2021). Additionally, LLMs, such as ChatGPT, differ from NMT in that they are generative, decoder-only models that depend on domain monolingual corpora in multiple languages containing data from the internet. These models aim to perform various writing-related tasks and therefore cannot be simply considered a version of NMT (Jiang et al., 2023). At the same time, LLMs, such as ChatGPT, struggle with low-resource language pairs and in highly domain-specific fields (Jiang et al., 2023). Hence, they are both worth studying. This paper aims to explore what can be expected of NMT and LLMs in translating Arabic legal texts and how the output of these MT tools would benefit a translator of legal texts. Therefore, it poses the following question:

To what extent do NMTs and LLMs, represented by systems like ChatGPT and Google Translate, match human translations (HT)

in terms of accuracy and fluency, and how do these machine translation models compare to each other in their performance?

Review of related Literature

Challenges associated with legal translation

Before reviewing previous practical research on MT and legal texts, it is worth elaborating on the challenges that legal texts may pose. Translators encounter difficulties in three distinct aspects: establishing equivalents, understanding the source text (ST), and crafting the target text (TT). To elaborate, translators often face challenges when attempting to render a legal text across different legal systems due to the absence of some fixed target language (TL) equivalents. Consequently, they must devise solutions on a case-by-case basis while considering factors related to the semantic nature of both the ST and the TT (Killman, 2023; Alcaraz & Hughes, 2002). Additionally, translators may spend considerable time unraveling legal ambiguities associated with legal terminology, as these are often intricately linked to specific co-text patterns and extratextual contextual elements that translators must be sensitive to. Moreover, TT composition presents another challenge because languages structure and represent reality differently (Borowski, 2015), further necessitating translators to devise solutions on a case-by-case basis. Given these constraints, it is valuable to study the effectiveness of MT in translating Arabic-English legal texts. Abdelaal and Alazzawie (2020) identified the common errors in Google Translate (GT) when translating news texts from Arabic to English, assess the translation quality, fluency, and semantic adequacy, and determine the extent to which human intervention is needed to improve the translation output. They found that omission and inappropriate lexical choice were the most frequent errors, often due to the homophonic nature of certain source text words. The study concluded that machine translation speeds up the process but sacrifices accuracy, and human proofreading is necessary for high-quality translations.

Features of Legal Discourse in English and Arabic

Legal discourse is characterized by its specialized structure, formal style, and precise terminology, which vary between languages due to cultural, historical, and linguistic differences. This literature review explores the key features of legal discourse in English and Arabic, highlighting syntactic complexity, lexical precision, passivization, and structural organization.

Syntactic Complexity

One of the defining characteristics of legal discourse in both English and Arabic is its syntactic complexity. Legal texts often contain lengthy sentences with multiple embedded clauses, aiming to eliminate ambiguity (Bhatia, 1993). In English legal texts, passive voice is frequently used to maintain objectivity and depersonalization (Tiersma, 1999). Similarly, Arabic legal discourse relies on complex syntactic structures, often utilizing nominalization and extensive coordination to achieve clarity and formality (Alcaraz & Hughes, 2002).

Lexical Precision and Terminology

Legal discourse in both languages demands a high level of lexical precision. English legal texts employ archaic expressions and Latin terminology, such as *habeas corpus* and *ex parte*, which contribute to their formal and rigid nature (Crystal & Davy, 1969). Arabic legal discourse, on the other hand, is influenced by Islamic jurisprudence, incorporating terms derived from classical Arabic and Sharia law (Badawi, Carter, & Gully, 2004). Furthermore, Arabic legal terminology is often polysemous, requiring contextual interpretation to ensure accuracy in translation (Hatim & Mason, 1997).

Passivization

Passivization is a prevalent feature in English legal discourse, serving to obscure agency and emphasize actions or legal principles rather than individuals. This aligns with the objective and impersonal nature of legal texts (Tiersma, 1999). Arabic legal discourse, while also employing passive constructions, relies more heavily on impersonal verb forms and nominalization to achieve a similar effect (El-Farahaty, 2015). The use of passive structures in both languages contributes to the authoritative and formal tone of legal texts, reinforcing their binding nature.

Structural Organization

The structural organization of legal texts in English follows a hierarchical approach, with clear distinctions between preambles, definitions, clauses, and sub-clauses (Williams, 2005). This structured format aids in logical interpretation and legal coherence. In contrast, Arabic legal documents frequently employ rhetorical features such as parallelism and repetition, which are rooted in classical Arabic rhetoric (El-Farahaty, 2015). The use of these stylistic devices enhances the persuasiveness and solemnity of Arabic legal texts.

Practical research on MT, LLMs and Legal texts

On the one hand, research on non-legal domains has found that MT can generate quality output, despite some limitations that can be addressed either in post-editing or by providing high-resource translation language pairs. MT research has mostly focused on literary texts and the comparison between human translation (HT) and machine translation (MT) (Kuo, 2018; Frankenberg-Garcia, 2021; Hu & Li, 2023). Kuo (2018) investigated the use of function words in MT Chinese and in not-translated Chinese texts, revealing an overuse of

function words in MT. Similarly, Frankenberg-Garcia (2021) conducted a comparative lexical analysis of literary works translated by NMT and HT, finding that HT performed better by exhibiting more explication, idiomacticity, and awareness of register. However, Hu and Li (2023) found out that MT showed a degree of creativity when comparing Shakespearian plays translated by DeepL and HT. Furthermore, ChatGPT, as an LLM, has been studied within general translation research (Hendy et al., 2023; Karpinska & Iyyer, 2023; Raunak et al., 2023). Studies revealed that ChatGPT can perform top-notch translation tasks if the language pairs are not low-resource or in highly domain-specific fields, underscoring the need for further research to study its capabilities.

On the other hand, MT research on legal domains has mostly studied high-resource translation pairs, such as French-English, German-English, and Spanish-English and has revealed mixed results (Kit & Wong, 2008; Farzindar & Lapalme, 2009; Mileto, 2019; Baniata et al., 2021; Kovács, 2022; Vigier-Moreno & Pérez-Macías, 2022; Varga & Grlić, 2023). Mileto (2019) conducted a case study to evaluate if, and to what extent, translators may improve the quality of legal text translations when working with a CAT tool. The results revealed that appropriate translations of collocations and terminological consistency exist, and the researcher concluded that MT, combined with the use of TBs and TMs, in the translation of legal texts can save time without compromising the quality of the final output, suggesting the positive use of MT in legal contexts.

However, other research showed problems with MT in legal contexts. Kit and Wong (2008) evaluated the performance of six MT tools, which are Babel Fish, Google, ProMT, SDL Free Translator, Systran, and WorldLingo, in translating four European treaties from EUR-Lex, a document from the United Nations' official website, and the Universal Declaration of Human Rights. They used the BiLingual Evaluation Understudy (BLEU) method, which is based on the concept that the closer the MT translation is to the HT, the better it is. The results revealed that MT quality in legal contexts is far from satisfactory and is best utilized for minimizing workload by “providing [HT] with more translation possibilities and, more importantly, the best choices for

translating each word, phrase, and clause” (p. 320), suggesting the struggle of MT in legal contexts.

Along the same lines, Kovács (2022) compared six NMT (Google) and HT English and Hungarian translations of Hungary’s Fundamental Law and the U.S. Constitution in terms of comprehensibility and well-formedness using Sketchengine, whereby they highlighted the challenges and contrasts in the process of translating legal language. The results revealed that the quality of the HT was superior: “the Hungarian text produced by neural-machine application underperforms the human translated text both in terms of source language appropriateness and target language well-formedness” (p. 55), suggesting the struggle of NMT in legal contexts.

Furthermore, Vigier-Moreno and Pérez-Macías (2022) assessed the quality of English-Spanish remand order translations produced by DeepL, eTranslation, and Google using TAUS guidelines to investigate whether translators can use MT in court translation. The results revealed that the systems under scrutiny still present major limitations. As a result, the authors called for “further research into the associated benefits and shortcomings, taking into account other genres, communicative situations, and language combinations” (p. 86).

Moreover, Varga and Grlić (2023) assessed DeepL and Google Translator, and examined their use in translating legal texts from English to German as compared to HT on EURLEX, a corpus that is part of the SketchEngine tool using evaluation criteria by Kirchhoff et al., which include fluency, adequacy, terminology consistency, and syntactic accuracy (2012). Results revealed that MT final product is in many parts erroneous and requires post editing and called for the urgent need for further research to investigate MT translation in legal contexts.

Other studies have focused on developing their own MT models for translation in legal contexts. Farzindar and Lapalme (2009) piloted and evaluated a model they developed called TransLI (Translation of Legal Information) for translating Canadian court judgments from English to French and from French to English. They concluded that for an MT tool to be effectively integrated into legal translation, it depends on “the availability of large corpora of good quality” (p. 66), which may not be available for many language pairs. Moreover, Baniata et al. (2021) proposed an NMT model using subword units to perform

translation tasks from various Arabic vernaculars to modern standard Arabic language, as well as introducing and developing a Word-Piece model to create subword units for the Arabic dialects. Results revealed that the utilization of subword units is promising and significant for low-resource languages such as Arabic vernaculars. The researchers concluded that low-resource languages such as Arabic, and its vernaculars, are better MT translated via the proposed model.

This review highlighted that MT and legal translation is an area worth studying for several reasons: first, research has mostly, if not exclusively, focused on language pairs other than Arabic-English; second, previous research has highlighted some use of MT in post-editing and on the terminology level, but has also noted many limitations of MT compared to HT; finally, there is a growing need for translators to understand the similarities and differences between MT legal translation and HT, as well as the capabilities and limitations of MT. Hence, this research aims to explore what can be expected of MT, NMT and LLMs, in translating Arabic legal texts and how the output of these MT tools would benefit translators of legal texts.

Methodology

Corpora and Data Collection

Texts were selected from Farahaty's book "Arabic-English-Arabic Legal Translation", published by Routledge in 2015, serving as a source for human-translated texts. Primary sources cited in the book were retained, mostly translated by scholars such as Hatim, Shunnaq, Buckley, and by Farahaty, a scholar in legal translation. The Arabic source texts were then translated using ChatGPT and GT, generating outputs. Sixteen texts of varying length and legal discourse subgenres were chosen for diversity.

All Arabic in-text examples were transliterated using the Library of Congress (LOC) translation system via an online tool on (<https://romanize-arabic.camel-lab.com/>).

Data Analysis

Qualitative analysis was initially conducted by one author, with the results subsequently corroborated by another to ensure triangulation and enhance the reliability of the findings. The translations were assessed for accuracy, and a comparison was made between the outputs of Google Translate (GT), ChatGPT, and human translation (HT). In this context, translation accuracy refers to how faithfully a translated text conveys the meaning, content, and intent of the source text. This includes ensuring that the translation is free from distortion, omission, or the introduction of unnecessary additions. Accuracy also involves maintaining the original tone, style, and contextual relevance, which are critical in legal and specialized texts. By comparing these three translation methods, the study aims to evaluate their ability to preserve the integrity of the source material while accounting for the nuances of language and culture.

Results and Discussion

ST	ChatGPT	Google Translate	HT	Source
وقد أوصيته بتقوی الله و القيام بشؤن هذه الوصاية بما فيه الحظ والنفع لجهة . . . فقبل ذلك مني وتعهد بالتزامه حسبه الله تعالى.	“And I have advised him to fear God and to fulfill the responsibilities of this will, with what is in the interest and benefit of [the party involved]. He accepted this from me and committed	I advised him to fear God and stand up Regarding these commandments, including them Luck and benefit to the contact. . . So he accepted	I have informed the guardian to be God fearing and to perform all tasks related to guardianship in the interest and in the benefit of . . . He has accepted this from me	(Hatim, Shunnaq and Buckley, 1995: 84–85)

	to abide by it, may God Almighty help him fulfill it.”	That is from me and I promise to do it accordingl y God	and undertaken to fulfill his obligation, may God be his sufficiency.	
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Table 1. Text 1

In ChatGPT’s translation, a strict adherence to literal translation is observed, where each word from the source text (ST) is meticulously translated, regardless of its functional or content-related significance. For instance, the inclusion of the resumption marker “و” in Arabic, utilized to initiate a new discourse, is retained in ChatGPT’s translation but overlooked in both the human translation (HT) and Google Translate (GT) renditions. Both ChatGPT and GT opted to employ the verb “advise” for translating “اوصيته” /Awṣyth/ whereas the HT selected “inform”. However, “inform” may fall short in fully encapsulating the intended meaning of the ST, as “advise” encompasses not only the act of imparting information but also offering guidance and recommendations. This aligns more closely with the nuanced semantic scope intended by the ST.

In the ST, “بنقى الله” /Btqwá Allāh/ is translated as “to fear God” by both ChatGPT and GT, while the HT renders it as “be God-fearing”. The HT’s choice of translation is more precise in conveying the perpetual and steadfast aspect of fearing Allah, whereas the infinitive form utilized by GT and ChatGPT implies a more situational or prospective application. Regarding the translation of “القيم بشون هذه” /al-Qayyām bsh’n Hādhihi al-waṣāyah/ ChatGPT demonstrates higher accuracy than GT by rendering it as “to fulfill the responsibilities of this will”. However, the term “will” may not be the most apt selection for “الوصاية” in this context, as the HT translates it as “guardianship”. GT’s rendition, “stand up regarding these commandments”, significantly diverges from the intended meaning. The HT’s translation, “to perform all tasks related to guardianship”, is both accurate and fluent, although “tasks” may not precisely capture the

essence of “بِشُؤْنٍ” / bsh'n / ChatGPT's utilization of “responsibilities” appears more contextually fitting.

Both HT and ChatGPT's translations accurately render “بِمَا فِيهِ الْحَظْ وَالنَّفْعِ لِجَهَةٍ” /bi-Mā fihi al-ḥazz wālnf' li-Jiha/ while GT's rendition is flawed. In terms of explicitation, the HT explicitly renders the pro-drop pronoun in the ST as “the guardian”, whereas ChatGPT and GT maintain it as a pronoun.

“وَتَعَهَّدُ بِالْتَّزَامِ” /Wt'hd bāltzāmh/ is perfectly translated by the HT as “undertaken to fulfill his obligation”, whereas ChatGPT accurately translates it as “committed to abide by it,” albeit with some disfluency in adhering to legal terminology. GT's translation is entirely erroneous.

The human translation (HT) renders الله تعالى “حسبه الله تعالى” (/Hsbh Allāh ta‘ālā/) as , “may God be his sufficiency”, which, while literal and technically accurate, sounds foreignized and does not align well with natural English phrasing. ChatGPT's translation, ‘may God Almighty help him fulfill it’, appears to be both more accurate and fluent, as it captures the intended meaning in a way that reads more naturally in English. In contrast, GT's output is flawed, either due to semantic inaccuracy, awkward phrasing, or a failure to account for the idiomatic nature of the phrase.

ST	ChatGPT	Google Translate	HT	Source
لأوضاع الدينية للأقليات يحكمها المبدأ القرآني العام “لا إكراه في الدين”	The general Quranic principle 'There is no compulsion in religion' (Al-Baqarah: 256) governs the religious affairs of minorities.	The religious conditions of minorities are governed by the principle General Qur'an: "There is no compulsion in religion" Al-Baqarah:	The Qur'anic principle "There is no compulsion in religion" shall govern the religious rights of non-Muslim minorities. (UIDHR, article 10: a)	Universal Islamic Declaration of Human Rights: (Islamic Council of Europe, 1981) Islam Universal (Barry Pearson's website): (Pearson, n.d.)

Table 2. Text 2

In translating the Arabic clause “العام لا إكراه في الدين البقرة لأوضاع الدينية للأقليات يحكمها المبدأ القرآني”， / li-awdā‘ al-dīnīyah lil-aqallīyāt yḥkmhā al-mabda‘ al-Qur’ānī al-‘āmm’ lā ikrāh fī al-Dīn ‘al-Baqarah/ ChatGPT provided a literal yet accurate and fluent translation, closely resembling the human translation (HT). However, the HT excelled by maintaining the legal style using the modal “shall” to indicate obligation, a distinction that ChatGPT overlooked. Conversely, Google Translate (GT) produced a flawed translation by converting the active voice in Arabic into the passive voice in English, a common practice in English but not typically found in legal discourse.

Thus, the HT’s translation emerged as the most accurate, fluent, and adherent to the legal style. While ChatGPT’s translation was superior to GT’s with some flaws, it fell short of fully capturing the legal tone present in the HT’s rendition.

ST	CHATGPT	Google Translate	HT	Source
حجۃ رجعة وحيث إنها مازالت في العدة الشرعية فأنتني أرجعها إلى عصمتي وعقد نكاحي	Legal Document: Notice of Divorce Revocable Upon Resumption Whereas the spouse is still within the prescribed waiting period (iddah) according to Islamic law, I hereby exercise my right of revocable divorce and rescind the	A return argument Since it is still in the legal waiting period, I return it to My disobedient and my marriage contract	Certificate of Remarriage to a Divorced Wife) And whereas she is still within the legally prescribed waiting period before remarrying, I return her to my matrimonial authority and to my	(Hatim, Shunnaq and Buckley, 1995: 98– 99)

	marriage contract.		contract of marriage.	
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Table 3. Text 3

The phrase “رجعة رجعة” / *Hujjat Raj'a/* was inaccurately translated as “Legal Document: Notice of Divorce Revocable Upon Resumption”, by ChatGPT which conveys the opposite meaning of the original text. While the ST refers to the case of remarriage after being divorced revocably, the ChatGPT output erroneously renders it as a notice of divorce. Similarly, the GT output, “return argument”, is a completely incorrect literal translation because the phrase does not refer to any kind of arguments; it refers to remarriage after divorce.

In contrast, the HT translated it as “Certificate of Remarriage to a Divorced Wife”, which accurately captures the intended meaning. However, this translation is somewhat wordy due to the lack of a direct one-to-one equivalent between English and Arabic, as the ST expression is culturally bound.

ST	CHATGPT	Google Translate	HT	Source
من حق الفرد أن ينال كفايته من ضروريات الحياة... من طعام، وشراب، وملبس، ومسكن... ومما يلزم لصحة بدنه من رعاية، وما يلزم لصحة روحه، وعقله، من علم، ومعرفة، وثقافة، في نطاق ما تسمح به موارد الأمة - ويمتد واجب الأمة في هذا ليشمل ما	“It is the right of the individual to obtain their sufficiency of life necessities, including food, drink, clothing, shelter, as well as the necessary provisions for the health of their body, and what is required for the health of their spirit	The individual has the right to obtain sufficient necessities of life... Of food, drink, clothing, and shelter... Among the care necessary for the health of his body, and what is necessary for the health of his soul and mind, are	Every person has the right to food, shelter, clothing, education and medical care consistent with the resources of the community. This obligation of the community extends in particular to all individuals	University of Minnesota Human Rights Library. (n.d.). <i>Universal Islamic Declaration of Human Rights (UIDHR)</i> . Retrieved [date], from http://www1.umn.edu/humanrts/arab/UI DHR.html Pearson, B. (n.d.). <i>Islam</i>

لا يستطيع الفرد أن يستقل بتوفيره لنفسه من ذلك.	and mind, such as education, knowledge, and culture, within the limits allowed by the resources of the nation. The duty of the nation extends to encompass what the individual cannot independentl y provide for themselves in this regard."	science, knowledge, and culture, within the limits permitted by the nation's resources - and the nation's duty in this extends to include what the individual cannot independentl y provide for himself. that.	who cannot take care of themselves due to some temporary or permanent disability.	<i>and the Universal Declaration of Human Rights.</i> Retrieved [date], from http://www.barrypearson.co.uk/articles/gods/islam_universal.htm
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Table 4. Text 4

The translations provided by both ChatGPT and GT are generally acceptable, albeit with a few inaccuracies. For instance, translating “الفرد” /al-Fard/ as “individual” is correct, but “every person” sounds more inclusive and therefore more accurate. Both ChatGPT and GT translations are more explicit with the verb “obtain” in the translation, which is omitted by HT. Another issue with the translations by ChatGPT and GT is the literal translation of the word “وشراب” /Wshrāb/ as “drink”. The term “drink” when used as a noun in English often carries negative connotations, as it primarily refers to alcoholic beverages. HT opted to omit it in the translation, which seems to be a prudent decision. In fact, the words “طعام” /Ta‘ām/ and “وشراب” /Wshrāb/ are collocations used in Arabic to refer to food, though literally meaning food and water. Therefore, omitting the word “drink” or “water” in the translation appears to be a sound decision.

Similarly, the phrase “ومسكن . . . وما يلزم لصحة بدنه من رعاية” /Wmskn . . . wa-mimmā yalzam li-ṣihḥat bdnh min Ri‘āya/ was

translated literally by ChatGPT and GT, but HT rendered it concisely and condensedly.

The ST phrase، من علم ومعرفة، وثقافه، وما يلزم لصحة روحه، وعقله، which literally translates to what is necessary for the well-being of one's soul, mind, knowledge, awareness, and culture, was translated differently by ChatGPT and GT, while HT condensed it into a single word, i.e. Education. HT's translation seems more fitting, as it captures the essence of the original without the verbosity of the ST. Additionally, the word "الأمة" /Ummah/ was inaccurately translated as "nation" by GT and ChatGPT, whereas HT translated it as "community". In this context, "community" is indeed a more precise translation of the original term.

ST	CHATGPT	Google Translate	HT	Source
من حق كل فرد ومن واجبه: أن يعلن رفضه للظلم، وإنكاره له، وأن يقاومه، دون تهيب مواجهة سلطة متعصفة، أو حاكم جائز، أو نظام طاغ... وهذا أفضل أنواع jihad	Every individual has the right and duty to declare their rejection of injustice, deny it, and resist it without fearing confrontation with an arbitrary authority, unjust ruler, or oppressive regime... This is one of the best forms of jihad.	It is the right and duty of every individual to declare his rejection of injustice, his denial of it, and to resist it, without... She dreads confronting an arbitrary authority, an unjust ruler, or a tyrannical regime... This is the best type of jihad	It is the right and duty of every Muslim to protest and strive (within the limits set out by the Law) against oppression even if it involves challenging the highest authority in the state.	University of Minnesota Human Rights Library. (n.d.). <i>Universal Islamic Declaration of Human Rights (UIDHR)</i> , Article 12(c). Retrieved [date], from http://www1.umn.edu/humanrts/arab/UIDHR.htm 1 Pearson, B. (n.d.). <i>Islam</i>

				<p><i>and the Universal Declaration of Human Rights.</i> Retrieved [date], from http://www.barrypearson.co.uk/articles/gods/islam_universal.htm</p>
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Table 5. Text 5

The verb “يعلن” /Y‘ln/ in the source text, which is a main verb in this context, was translated by GT and ChatGPT as “declare”, while HT translated it as “protests against”. The HT translation sounds more plausible as it conveys the intended meaning of striving against tyranny and oppression. GT and ChatGPT’s translations are neutral, so in short, the human translation conforms more to the legal style of language. Additionally, the human translation added the phrase “within the limits set out by the law” as explicit clarification to indicate that such protests should adhere to legal boundaries.

The word الظلم “lil-Zulm/ was translated by ChatGPT and GT as “injustice,” while HT translated it as “oppression”. “Oppression” is stronger and more suppressive than “injustice”. However, they think that translating the source text towards either “injustice” or “oppression” is equally acceptable.

The phrase دون تهيب مواجهة سلطة متعصفة، أو حاكم جائز “/Dawwn thyb muwājihat Sulṭat mt‘sfh, aw Ḥākim jā’r/ was translated literally by ChatGPT and GT as “without fearing confrontation with an arbitrary authority or unjust ruler”. The human translation rendered it as “challenging the highest authority in the state”, which is more condensed but lacks some important information from the source text.

Also, the expression وهذا أفضل أنواع الجهاد “/wa-Hādhā afḍal anwā‘ al-jihād/ was maintained by GT and ChatGPT but omitted in the HT translation. It is possible that the human translator chose to delete it

from the target text due to the negative connotations associated with the word “jihad”. However, it is important to note that this expression is integral to the Islamic creed and should not be overlooked or omitted in translations. Therefore, maintaining such expressions in the target language is preferable to accurately convey the original meaning and significance. One last thing to note is that the word “فرد” /Fard/ was translated by ChatGPT and GT as “individual”, but HT translated it as “every Muslim”, which is more contextual as it addresses Muslims specifically.

ST	CHATGPT	Google Translate	HT	Source
تحمی الدول الأطراف كل إنسان ... وتنفذ التدابير الفعالة لمنع ذلك وتعتبر ممارسة هذه التصيرفات أو الإسهام فيها جريمة يعاقب عنها،	Countries protect every individual... and take effective measures to prevent that and consider engaging in or contributing to such actions a punishable crime.	States Parties shall protect every human being... Effective measures are taken to prevent this and the practice of such behavior is considered. .. Contributi ng to it is a punishable crime.	The States parties shall protect every person ... They shall take effective measures to prevent such acts and shall regard the practice thereof, or participatio n therein, as a punishable offence.	University of Minnesota Human Rights Library. (n.d.). <i>Arab Charter on Human Rights (AChHR), Part 2: Article 13(a).</i> Retrieved [date], from http://www1.umn.edu/humanrts/arab/a003.html University of Minnesota Human Rights Library. (n.d.). <i>Arab Charter on Human Rights (AChHR).</i> Retrieved [date], from http://www1.umn.edu/humanrts/instre/arabchart.er.html

Table 6. Text 6

The original text, “تحمى الدول الأطراف كل إنسان”, /Tḥmá al-Duwal al-āṭrāf kull insān/ was translated accurately by Google Translate and closely resembled the human translation. The primary distinction between Google Translate (GT) and the human translation (HT) lies in the usage of “every person” in HT and “every human being” in GT. This difference may seem subtle, but it is significant in legal contexts. HT and GT maintained a legal style, unlike ChatGPT (Chad GPT), whose translation diverged significantly. For instance, Chad GPT translated “الدول الأطراف” /al-Duwal al-āṭrāf/ as “countries”, which lacks legal authenticity. Both GT and Chad GPT failed to uphold the legal style, whereas HT used “shall”, adhering to legal conventions.

Similarly, “وتتخذ التدابير الفعالة لمنع ذلك”, /Wttkhhdh al-Tadābīr al-fa “ālah li-man‘ dhālika/ was rendered in active voice by ChatGPT but in passive voice by GT. However, neither GT nor ChatGPT adhered to legal conventions, as it was rendered as “take effective measures to prevent that and consider engaging in or contributing to such actions a punishable crime”. And “Effective measures are taken to prevent this and the practice of such behavior is considered... Contributing to it is a punishable crime”, by ChatGPT and Google Translate respectively. The two translations did not follow the legal conventions of using “shall” to show obligations. In contrast, HT maintained a legal style, using “shall” while retaining active voice. The translation of “جريمة”, /Jarīma/ as “crime” by GT and ChatGPT, and “offense” by HT, showcases a nuanced difference. “Offense” encompasses various breaches of law, rules, or legal norms, while “crime” specifically denotes an action punishable by law, which may make “crime” more accurate in this context. This underscores the importance of post-editing machine translations by human translators to ensure legal accuracy.

ST	ChatGPT	Google Translate	HT	Source
يُنشأ مجلس يُسمى المجلس القومي للمرأة يتبع رئيس الجمهورية تكون له	A council called the National Council for Women is established, which is under	A council called the National Council for Women shall be established under the	A National Council for Women shall be established under the	Arab Republic of Egypt. (2018). Law No. 30 of

<p>الشخصية الاعتبارية، ويكون مقره مدينة القاهرة.</p> <p>شكل بالمجلس لجان دائمة لممارسة اختصاصاتها المبنية في المادة الثالثة</p>	<p>the authority of the President of the Republic and possesses legal personality. Its headquarters are located in Cairo.</p> <p>The Council forms permanent committees to exercise its specified powers outlined in Article Three.</p>	<p>President of the Republic. It shall have legal personality, and its headquarters shall be in the city of Cairo.</p> <p>Permanent committees shall be formed in the Council to exercise their powers set forth in Article Three</p>	<p>President of the Republic. It shall have a moral character and its seat shall be in Cairo. (article 1)</p> <p>The Council establishes the following Standing Committees in order to carry out its functions as stipulated in Article Three: (article 5)</p>	<p>2018 on the National Council for Women.</p>
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Table 7. Text 7

ينشأ مجلس يسمى المجلس القومي للمرأة يتبع رئيس الجمهورية تكون له “الشخصية الاعتبارية، ويكون مقره مدينة القاهرة” /Yunsh’ Majlis yusmá al-Majlis al-Qawmī lil-mar’ah ytb‘ ra’is al-Jumhūriyah takūn la-hu al-shakhṣīyah al-i‘tibāriyah, wa-yakūn mqrh Madīnat al-Qāhirah/ was translated as if it is already established, so it was rendered as “A council called the National Council for Women is established”, which contains some redundancy due to the repetition of “council”. The problem with this translation is that it implies the council is already established. In contrast, GT provided a better translation by following a legal style and using the modal “shall” to express futurity and the fact that it has not yet been established. The human translation also adhered to the legal style. The common expression “الشخصية الاعتبارية” /al-Shakhṣīya al-i‘tibāriyah/ was translated by GT as “legal personality”, which is more accurate than HT’s “moral character”. Similarly, “مقره” /Mqrh/ was

translated by GT and ChatGPT as “headquarters”, which is more accurate than HT’s “seat”. Additionally, "لجان دائمة" /Lijān dā’imah/ was translated literally by GT and ChatGPT as “permanent committees”, while HT translated it as “standing committees”, which sounds more plausible. Finally, “لختصاصاتها” /Ikhtiṣāṣātuhā/ was translated by ChatGPT and GT as “powers”, which is more accurate than HT’s “functions”. Overall, the translations by GT and ChatGPT are more accurate in this example.

ST	ChatGPT	Google Translate	HT	Source
<p>يجب على المستأجر في حالة انتهاء مدة العقد وعدم رغبته في تجديده أخبار المؤجر بذلك خطياً قبل انتهاء مدة العقد بثلاثة أشهر على الأقل وإلا يعتبر مستأجرًا للمؤجر لمدة سنة أخرى إلا إذا أراد المؤجر ذلك.</p>	<p>The tenant must, in the event of the contract's expiration and their lack of desire to renew it, inform the landlord thereof in writing at least three months before the contract's end.</p> <p>Otherwise, they shall be considered a tenant under hire for another year unless the landlord wishes otherwise.</p>	<p>The tenant must in case If the contract period expires and he does not want to renew it, he must inform the lessor of this in writing at least three months before the end of the contract period, otherwise he will be considered a tenant of the lessor for another year unless the lessor wants that.</p>	<p>In the event of the expiry of the period of the contract and with no desire to renew the contract, the lessee must similarly give written notification of this to the lessor at least three months prior to the expiry of the period of the contract, otherwise he/ she will be deemed to be the lessee of the rented property for another year if the lessor so wishes.</p>	<p>(Hatim, Shunnaq and Buckley, 1995:186–187)</p>

Table 8. Text 8

The comparison between ChatGPT, GT, and HT in rendering the Arabic source text (ST) highlights key differences in legal tone, clarity, and fidelity to the original meaning. One of the most striking similarities among all three translations is their use of the word “must” to indicate obligation. This choice is appropriate, as legal texts conventionally use “shall” or “must” to denote mandatory actions. While “shall” is the traditional legal term, “must” is now widely accepted in modern legal drafting for its clarity and directness.

Despite this shared lexical choice, the translations differ significantly in their tone and structure. ChatGPT’s translation maintains a legal tone, particularly with phrases such as “shall be considered a tenant under hire” and “unless the landlord wishes otherwise”. These formulations align with legal English conventions, ensuring that the contractual obligations are conveyed with the necessary formality. In contrast, GT’s translation, while grammatically correct, lacks the same degree of legal precision. The phrasing “he must inform the lessor of this” is slightly redundant, and “otherwise he will be considered a tenant of the lessor” does not carry the same legal weight as ChatGPT’s more formal construction. The human translation, by comparison, offers the most polished rendering, using phrases like “will be deemed to be the lessee of the rented property”, which better reflect legal terminology and contractual obligations.

Another important aspect of the comparison lies in sentence structure and readability. ChatGPT produces a well-structured and coherent translation, balancing legal precision with accessibility. GT, however, presents a more awkward formulation, particularly in “in case If the contract period expires”, which is structurally flawed. This issue makes GT’s translation less natural and harder to follow in a formal legal setting. On the other hand, the human translation demonstrates a refined and fluent style, ensuring both clarity and strict adherence to legal norms.

Beyond these structural differences, minor variations in vocabulary also set the translations apart. ChatGPT and GT both use “tenant” for the Arabic “المستأجر”, while the human translator opts for

“lessee”, which is the more precise legal term in English contracts. ChatGPT’s phrase “under hire for another year” is somewhat unconventional in legal language, whereas the human translation’s “deemed to be the lessee of the rented property” aligns more closely with legal phrasing commonly found in contracts.

These differences can be attributed, in part, to the influence of online legal texts on machine translation systems. The consistency between ChatGPT’s output and the human translation suggests that AI models are benefiting from exposure to extensive legal documents available online. This exposure allows them to learn and replicate standard legal formulations, improving the quality of their translations. However, while ChatGPT produces a more legally sound translation than GT, it still does not fully match the level of precision and refinement seen in human translation.

In short, while all three translations successfully convey the contractual obligation using “must”, their effectiveness varies in terms of legal tone, clarity, and lexical precision. ChatGPT offers a more legally appropriate rendering than GT, but the human translation remains the most refined and accurate. The similarities between ChatGPT’s output and the human translation highlight the role of online legal texts in enhancing AI translation models, yet the nuanced differences underscore the continued importance of human expertise in legal translation.

ST	ChatGPT	Google Translate	HT	Source
أقسم بالله العظيم أن أحافظ مخلصاً على النظام الجمهوري وأن احترم الدستور و القانون وأن أرعى مصالح الشعب رعاية كاملة وأن أحافظ على استقلال	I swear by almighty God to faithfully uphold the republican system, to respect the constitution and the law, to safeguard the interests of the people fully,	I swear by God Almighty to faithfully preserve the republican system, to respect the constitution and the law, to fully care for the interests of the people,	I swear by Almighty God to loyally uphold the Republican system, to respect the Constitution and the law, and fully	(From The Egyptian Satellite Channel: 5 o’clock news, July 2013) < http://www.emannabih.com/english - Âtranslation

الوطن وسلامة أراضيه.	to preserve the independence of the nation and the integrity of its territories.	and to preserve the independence of the nation and the integrity of its lands.	safeguard the interests of the people and to safeguard the independence of the nation and the territory unity and integrity.	-of-Âthe-egyptian-Âconstitution-2013-long-Âlive-egypt/
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Table 9. Text 9

In this example, there is no difference between the human translation and the translations provided by GT and ChatGPT. All of them accurately convey the intended meaning. One reason for this is that the text is not complex, making it easy for translation systems to provide accurate translations.

ST	ChatGPT	Google Translate	HT	Source
أنا المحضر سالف الذكر قد انتقلت في التاريخ المذكور أعلاه إلى حيث المعلم إليهم وسلمتهم صورة من هذه الصحيفة، وكلفتهم بالحضور أمام محكمة... الابتدائية	I, the undersigned bailiff, have gone on the aforementioned date to the address of the recipients and delivered them a copy of this document, and I have instructed them to	I, the aforementioned bailiff, went on the above-mentioned date to the addressees and delivered to them a copy of this document, and ordered them to appear before the	I, the aforementioned bailiff, have moved on the above date to where the informed parties live, handed over a copy of this document and summoned them to appear before the primary court of... (a suit	(Farahaty's translation) http://www.arlawfirm.com/ADVdetails.asp?id=882

	appear before the Primary Court	Court of Primary	for the appointment of a liquidator of a company	
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Table 10. Text 10

The comparison of translations between ChatGPT, GT, and HT reveals interesting insights into accuracy, formality, and legal tone, particularly in the context of legal documents.

To elaborate, ChatGPT's Translation is the most formal and legally appropriate among the three. The phrasing "I, the undersigned bailiff" is standard in legal documents, reflecting a tone of formality typically found in court-related communication. The choice of "have gone" effectively conveys the action in the past, and "instructed them to appear" is precise, capturing the legal nature of the summons. This translation strikes a balance between clarity and adherence to legal conventions.

GT's Translation, while technically accurate, is slightly less formal. The use of "went" in "went on the above-mentioned date" sounds less formal than "have gone" and could be perceived as a bit casual in legal contexts. The phrase "delivered to them a copy of this document" is correct but lacks the higher-level legal phrasing that would be more typical in such documents. Additionally, "ordered them to appear" is a valid translation but could be enhanced to sound more formal, as in "instructed" or "summoned."

HT, attributed to Farahaty's translation, shows a strong legal tone with the choice of "the aforementioned bailiff", which is standard legal language. It also uses "have moved" and "handed over", which are direct but slightly less formal compared to the phrasing seen in ChatGPT's version. "Summoned them to appear before the primary court" is also an accurate choice, though it could be viewed as a slightly less formal and more conversational way of stating what is typically phrased in stricter legal terms as "instructed" or "commanded".

The differences in vocabulary and phrasing across all three translations reflect varying degrees of formality and accuracy typical of different translation methods. ChatGPT's translation is the most faithful

to legal conventions, while GT and HT use slightly less formal language, though still appropriate for the context.

Ultimately, each translation has its merits, but ChatGPT maintains the most legally precise tone, which is crucial for legal documents. GT and HT both convey the meaning well, but with slightly varying levels of formality and legal degree.

ST	ChatGPT	Google Translate	HT	Source
يُفسخ هذا العقد فوراً و تلقائياً و بدون تنبيه أو إنذار في حالة ..	This contract shall be terminated immediately and automatically and without notice or warning in the event of...	This contract shall be terminated immediately and automatically and without notice or warning in the event of...	This contract is revoked immediately and absolutely without any prior notice if ... (Tenancy Agreement, article 12)	(Farahaty's translation) (Constitution of the Hashemite Kingdom of Jordan 1952, Article 13) http://www.parliament.jo/node/137 http://www.kinghussein.gov.jo/constitution_jo.html

Table 11. Text 11

Both the HT and ChatGPT provided similar translations, while GT's translation stood out. Although HT and ChatGPT rendered the text similarly, GT's version differed slightly. One noticeable variation was in the translation of “تلقائياً” /Tlqā'yan/ which GT and ChatGPT translated as “automatically,” while HT translated it as “absolutely”. The term “absolutely” is more precise in this context, implying without restriction or limitation, which aligns better with legal terminology. Apart from this distinction, there were no other notable differences between the machine translation and the human translation.

ST	ChatGPT	Google Translate	HT	Source
<p>والقاعدة المقررة في الفقه الجنائي أن العقوبة التي ينص عليها المشرع هي التي تحدد نوع الجريمة المرتكبة والمعاقب عليها فإذا كانت الجريمة يعقوب عليها القانون بالإعدام أو الأشغال الشاقة أو السجن فهي جنائية وإن كان معاقباً عليها بالحبس الذي لا يزيد أقصى مدة عن أسبوع أو بالغرامة التي لا يزيد أقصى مقدارها عن جنيه مصرى فهي جنحة</p>	<p>The established principle in criminal jurisprudence is that the punishment prescribed by the legislator is the one that determines the type of crime committed and the punishment for it. If the crime is punishable by death, hard labor, or imprisonment under the law, then it is considered a felony. However, if the punishment is limited to imprisonment for a maximum period of one week or a fine not exceeding one Egyptian pound, then</p>	<p>The established rule in criminal jurisprudence is that the punishment stipulated by the legislator is what determines the type of crime committed and the one punished. If the crime is punishable by law by death, hard labor, or imprisonment, it is a felony, even if it is punished by imprisonment for a maximum period of no more than a week or a fine of no more than The maximum amount is less than one Egyptian pound, so it is a</p>	<p>The rule established in criminal law is that the punishment which is prescribed by the legislator determines the type of crime committed and which is therefore punishable. If the crime is to be punished by death or hard labour or imprisonment, it is a felony. If the crime is to be punished by imprisonment the maximum duration of which does not exceed a week or a fine the maximum amount of which</p>	<p>(Farahaty's translation) http://www.arlawfirm.com/ADVdetails.aspx?id=5578</p>

	it is considered a misdemeanour.	misdemeanor	does not exceed one Egyptian pound, it is a misdemeanour	
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Table 12. Text 12

In text 12, there are discernible differences among ChatGPT, GT, and HT translations. For instance, ChatGPT translated “القاعدة” as “principle”, while GT and HT used “rule”. Although “principle” is more accurate in conveying a fundamental truth or proposition, “rule” also fits as it denotes explicit or understood regulations governing conduct or procedure within a particular area of activity. Both translations are acceptable, though “principle” sounds better for its stronger connotation.

Another discrepancy lies in the translation of “الفقه الجنائي” /al-Fiqh al-jinā’ī/. ChatGPT and GT translated it as “Criminal jurisprudence”, whereas HT rendered it as “criminal law”. In this context, “law” is more precise than “jurisprudence”. This is because “Jurisprudence” typically involves advocating for the creation of laws aligned with moral or ethical principles, whereas “law” focuses on explaining existing laws and their practical implementation. Thus, “law” emphasizes a critical approach towards legal systems, evaluating and seeking improvements. Overall, the HT translation appears to be more accurate and aligned with legal terminology. However, the translations provided by ChatGPT and GT are also reasonably accurate, though they may not perfectly conform to legal standards.

ST	ChatGPT	Google Translate	HT	Source
تحمي الدولة حرية القيام بشعائر الأديان والعقائد	The state protects the freedom to practice religious rituals and beliefs	The state protects the freedom to practice religions and beliefs	The State shall safeguard the free exercise of all	The Royal Hashemite Court. (1998). <i>The Constitution</i>

طبقاً للعادات ما... لم تكن مخلة بالنظام العام أو منافية للآداب.	according to customs, provided that they do not conflict with public order or violate morals.	in accordance with customs. . Unless it is disruptive to public order or immoral.	forms of worship and religious rites ... unless such is inconsistent with public order or morality.	<i>n of Jordan.</i> Retrieved [date], from http://www. kinghussei n.gov.jo/co nstitution_j o.html
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Table 13. Text 13

ChatGPT and GT provided very similar translations, but there are some minor differences compared to the HT translation. For instance, the verb “تحصي” /Thmy/ was translated by ChatGPT and GT as “protect”, while HT rendered it as “shall safeguard”. The HT translation, with “shall safeguard”, implies an obligation, aligning more closely with the role of the state in protecting citizens’ rights. Additionally, the expression “حرية القيام بشعائر الأديان والعقائد” /Hurrīyat al-Qayyām bsh‘ār al-adyān wa-al-aqā’id / was translated by ChatGPT as “the freedom to practice religious rituals and beliefs”, while GT translated it as “freedom to practice religions and beliefs”. However, HT’s translation, “free exercise of all forms of worship and religious rights”, is more inclusive and accurate, as it encompasses various forms of worship and religious rituals. Therefore, HT’s translation appears to be more accurate and faithful to the source text compared to the translations provided by ChatGPT and GT.

ST	ChatGPT	Google Translate	HT	Source
يقر الطرف الثاني أنه عاين الشقة موضوع البيع المعاينة التابعة لاتفاقية للجهالة.	The second party acknowledg es that they have inspected the apartment	The second party acknowledg es that he has inspected the apartment	The second party acknowledg es that he/she has fully inspected the	(Contract for Sale for an Apartment) (Farahaty’s translation).

	subject to the sale, with a thorough inspection negating any ignorance.	subject to sale in a comprehensive manner that excludes ignorance.	apartment for sale, without any Uncertainty or ignorance on his/her part.	
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Table 14. Text 14

In Text 14, both ChatGPT and GT translated the source text properly, with the only disparity lying in the rendition of the final section: “المعاينة“ /al-Mu‘āyana al-tāmma alnāfyh lljhāla/ ChatGPT’s translation was “with a thoroughness patient negating any ignorance”, which is acceptable but awkward sounding. The phrase “with a thoroughness patient negating any ignorance” in ChatGPT’s translation sounds awkward primarily because of the unusual word order and the combination of “thoroughness” and “patient”. In English, these words do not typically go together in this context, making the expression difficult to follow. Similarly, GT translated it as “in a comprehensive manner that excludes ignorance”, which is also acceptable but lacks naturalness. However, HT’s translation, “without in his uncertainty or ignorance on his or her part”, sounds more natural, idiomatic, and accurate.

ST	ChatGPT	Google Translate	HT	Source
مع عدم الإخلال بحق المصريين في المجرة يقتضي راغبو الهجرة الدائمة بناء على طلفهم في سجل بالوزارة المختصة بشئون الهجرة، وتوزع فرص الهجرة التي قد	Without infringing on the rights of Egyptians to emigrate, those desiring permanent migration are required, upon their request, to register with the ministry	Without prejudice to the right of Egyptians to immigrate, those wishing to immigrate permanently shall be registered upon their request in a registry in	Without prejudice to the right of the Egyptians to emigration, names of those wishing permanent emigration are to be recorded, at	Article 6) (Farahaty’s translation) http://www.arlawfirm.com/ADVdetails.asp?id=801

<p>توافر لدى الوزارة المذكورة على المقيمين بهذا السجل على أساس تخصصاتهم وامكانياتهم و الاحتياجات المطلوبة في دول المهجر مع الالتزام بأسقيفية القيد في السجل.</p>	<p>responsible for immigration affairs. Opportunities for migration available through the mentioned ministry are then allocated to those registered in this registry based on their specialties, capabilities, and the required needs in the countries of migration, with adherence to priority in registration in the registry.</p>	<p>the ministry responsible for immigration affairs, and immigration opportunities that may be available at the aforementioned ministry shall be distributed to those registered in this registry on the basis of their specializations, capabilities, and needs required in the diaspora countries, while adhering to the priority of registration in the registry..</p>	<p>their request, with the Ministry of Emigration. With a commitment to the primacy enrolment in a register, emigration opportunities that may be available to the said Ministry are to be distributed on those enrolled in the register on the basis of their specialization and their abilities and the requirements of the countries they will emigrate to.</p>	
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Table 15. Text 15

ChatGPT and GT provided literal translations, maintaining the source text's meaning. For instance, the expression “في دول المهجر” /Fī duwal al-mahjar/ was translated by ChatGPT and GT as “diaspora countries”, while the HT chose “countries they all immigrate to”. Here, the HT translation is more accurate and fluent.

ST	ChatGPT	Google Translate	HT	Source
<p>يتعهد الطرفان المتعاقدان بتسهيل المبادلات التجارية بين الدولتين، ووفقاً لهذا التعهد يكون لكل من رعايا الدولتين في بلاد الدولة الأخرى بعد الحصول على إذن منها الدخول والإقامة طبق نظمها . . . ويعهد الطرفان المتعاقدان أن يساعدوا بتطبيق كل تسهيل موافق للنظم المحلية في معاملات رعايا الدولتين في التجارة فما يختص بالضرائب والرسوم الجمركية.</p>	<p>The contracting parties undertake to facilitate trade exchanges between the two countries, and according to this commitment , each of the nationals of the two countries in the territory of the other country shall be allowed to enter and reside, after obtaining permission to enter and reside in accordance with its regulations.. . The contracting parties further undertake to assist in the implementation of all facilitations consistent with local regulations in the transactions of nationals</p>	<p>The two contracting parties undertake to facilitate commercial exchanges between the two countries, and in accordance with this pledge, each of the nationals of The two countries are in the country of the other country after obtaining its permission to enter and reside in accordance with its regulations. . . The two contracting parties undertake to assist in implementing every facilitation consistent with local regulations in the transactions of nationals</p>	<p>The two Contracting Parties undertake to facilitate trade exchange between the two countries. According to this pledge, the nationals of each state reside in the territory of the other state after obtaining the permission of entry and residence according to its regulations . . . The two Contracting Parties pledge to help implement all facilities, subject to their local systems, in the treatment of the nationals of the</p>	<p>(Article 2) (Farahaty's translation) http://www.yemen-Ânic.net/personal/site_use.php</p>

	in transactions concerning the nationals of the two countries in trade matters, including taxation and customs duties.	of the two countries in trade, with regard to taxes and customs duties.	two countries in trade, with regards to taxes and customs duties.	
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Table 16. Text 16

In Text 16, the HT exhibits a more legal tone and conforms better to legal style conventions. One notable difference is in the capitalization of keywords like “contracting parties”, which were capitalized in the HT translation but disregarded by GT and ChatGPT. Additionally, the word “الطرفان” /Alṭrfān/ was translated by GT as “parties”, while HT and GT translated it as “two parties”. This distinction is important as it differentiates between duality and plurality in Arabic, making HT’s translation more accurate in this context. Similarly, the word “التعهد” /Alt‘hd/ was translated by GT and HT as “pledge”, while ChatGPT translated it as “commitment”. “Pledge” is more accurate here as it implies a solemn promise or agreement. Furthermore, “الدولتين” /al-Dawlatayn/ was translated by ChatGPT and GT as “countries”, whereas HT translated it as “States”, which is more accurate as it refers to organized political communities under one government. In sum, the HT’s translation is more accurate, fluent, and conforms better to legal style conventions, although GT and ChatGPT provided translations that could be refined through post-editing, a finding that conforms with previous research on the need for human post-editing for AI performed translation (Al Sawi & Allam, 2024), or editing tasks (Al Sawi & Alaa, 2024).

Conclusion

In conclusion, the comparison between machine translation and human translation, particularly in legal contexts, underscores the challenges and complexities involved in accurately conveying meaning and adhering to stylistic conventions. While machine translation, represented here by ChatGPT and GT, offers efficient and often contextually relevant translations, it falls short in capturing the complexities of legal terminology, capitalization norms, and subtle linguistic nuances. Human translation, exemplified by HT, excels in providing translations that are not only accurate and legally precise but also fluent and stylistically appropriate. The meticulous attention to detail, including capitalization consistency and precise word choice, demonstrates the indispensable role of human expertise in legal translation. However, it is important to acknowledge the potential of machine translation as a valuable tool, especially when coupled with post-editing by skilled translators.

Future research could focus on enhancing machine translation systems by integrating more advanced techniques in legal corpus development and AI training, specifically in the areas of legal terminology and stylistic nuances. Investigating the role of post-editing in improving the output of machine translation systems could further bridge the gap between machine-generated and human translations. Additionally, exploring the use of hybrid translation models, where machine translation is employed as a first draft followed by human refinement, could offer an effective solution for improving efficiency while maintaining high translation quality. Ultimately, this comparison highlights the complementary nature of machine and human translation, each contributing unique strengths to the pursuit of accurate and effective communication across linguistic and legal boundaries.

Conflict of interest

The author declares that there is no conflict of interest.

AI Use statement

AI was not used in the paper.

Statement of Contributions

The authors contributed equally to the preparation of the manuscript

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