
Machine Translation vs. Human Expertise – Evaluating Accuracy and Fluency in Arabic-English Legal Texts (1)

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Abstract

This study examines the quality of Arabic–English legal translation (henceforth LT) by comparing machine translation (henceforth, MT) systems with professional human translators in terms of accuracy and fluency. The study focuses on whether MT can be relied on for high-stakes legal documents, where specialised terminology, context-dependent concepts, and precise allocation of rights and obligations are critical. It is hypothesised that MT will produce significantly lower accuracy and fluency than human expertise, especially in rendering specialised legal terms and preserving exact legal meaning. To test this hypothesis, a corpus of authentic Arabic legal documents was translated into English by two MT engines and by human-expert translators. Employing the Multidimensional Quality Metrics (MQM) framework for evaluation, the analysis identifies critical error types such as terminological drift, ambiguous procedural statements, and the omission of conditions, errors with direct legal consequences for the interpretation of rights and obligations. The findings demonstrate that while machine output may achieve sentence-level fluency, it exhibits systematically higher rates of serious accuracy errors. The study concludes that human expertise remains indispensable for ensuring fidelity and managing risk in legal translation, although machine systems can function as a preliminary drafting aid. This study is organised into five chapters, progressing from the study's theoretical foundations and methodology to a detailed practical analysis and final recommendations, thereby providing a thorough assessment of translation practices for Arabic–English legal texts.

Keywords: legal translation, machine translation, Arabic–English legal translation, Multidimensional Quality Metrics, human translation, Google Translate, accuracy errors, fluency errors

Received: 12/01/2026

Accepted: 14/01/2026

الترجمة الآلية مقابل الخبرة البشرية - تقييم الدقة والطلاقة في النصوص القانونية العربية-الإنجليزية

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المستخلص

تتناول هذه الدراسة جودة الترجمة القانونية من العربية إلى الإنجليزية من خلال مقارنة أنظمة الترجمة الآلية بالترجمين البشريين المحترفين من حيث الدقة والطلاقة. وتركز الدراسة على مدى إمكانية الاعتماد على الترجمة الآلية في الوثائق القانونية ذات الأهمية البالغة، حيث تُعد المصطلحات المتخصصة والمفاهيم المرتبطة بالسياق والتوزيع الدقيق للحقوق والالتزامات أمورًا حاسمة. وتفترض الدراسة أن الترجمة الآلية تُنتج دقة وطلاقة أقل بكثير من الخبرة البشرية، لا سيما في ترجمة المصطلحات القانونية المتخصصة والحفاظ على المعنى القانوني الدقيق. ولاختبار هذه الفرضية، تُرجمت مجموعة من الوثائق القانونية العربية الأصلية إلى الإنجليزية باستخدام محركي ترجمة آلية و مترجمين بشريين خبراء باستخدام إطار عمل مقاييس الجودة متعددة الأبعاد (MQM) للتقييم. يُحدد التحليل أنواعًا جسيمة من الأخطاء، مثل الانحراف المصطلحي، والغموض في العبارات الإجرائية، وإغفال الشروط وهي أخطاء ذات تبعات قانونية مباشرة على تفسير الحقوق والالتزامات. وتُظهر النتائج أنه على الرغم من أن مخرجات الترجمة الآلية قد تُحقق سلاسة على مستوى الجملة، إلا أنها تُظهر معدلات أعلى من أخطاء الدقة الجسيمة. وتخلص الدراسة إلى أن الخبرة البشرية لا تزال ضرورية لضمان الدقة وإدارة المخاطر في الترجمة القانونية، على الرغم من أن أنظمة الترجمة الآلية يُمكن أن تعمل كأداة مساعدة أولية في الصياغة. يُقسم هذا البحث إلى خمسة فصول، بدءًا من الأسس النظرية ومنهجية الدراسة ووصولًا إلى تحليل عملي مُفصل وتوصيات نهائية؛ الامر الذي يُوفر تقييمًا شاملاً لممارسات الترجمة للنصوص القانونية من العربية إلى الإنجليزية.

كلمات مفتاحية: الترجمة القانونية، الترجمة الآلية، الترجمة القانونية من العربية إلى الإنجليزية، مقاييس الجودة متعددة الأبعاد، الترجمة البشرية، ترجمة جوجل، أخطاء الدقة، أخطاء الطلاقة.

تاريخ القبول: ٢٠٢٦/٠١/١٤

تاريخ الاستلام: ٢٠٢٦/٠١/١٢

1.Introduction

LT plays a vital role in global communication and cooperation but remains challenging due to the need for linguistic accuracy and cultural understanding. Although advancements in MT systems have improved access and speed, MT still struggles with the complexity, ambiguity, and context-dependent nature of LL (henceforth LL), making human expertise essential for precise, nuanced translations.

The present study compares Arabic–English legal translations produced by MT with those produced by professional human translators. Based on a corpus of manually selected legal texts, we assess each method through (MQM), focusing on adequacy or how well it maintains the meaning and fluency or how correct and smooth flowing the language is. The goal is to evaluate the global quality and trustworthiness of each LT method.

The guiding hypothesis is that MT quality will still lag behind human translation in terms of accuracy and fluency, particularly given the specialised nature of the legal lexicon, context-bound meanings, and system-tied differences. That said, such an approach acknowledges the use of MT tools to produce documents in routine cases and to streamline operational processes, while addressing the human review gap that, if left open, would lead to errors and legal uncertainty.

The study is organised into a theoretical and an applied part. The theoretical section, including an analysis of the background, statement of problem, purpose and delimitation of study, contributes a review of LL and translation within Translation Studies. The experimental section details the approach used, including translation steps, evaluation methods, and data analysis. Despite the technical analysis, the study authors also point out crucial ethical and legal considerations, including privacy concerns, data security measures, and the potential downsides that come with relying too heavily on automated systems; even small mistakes can have large legal or financial repercussions.

There are significant pedagogical implications as well. AI technologies will continue to evolve, and future legal translators should be trained in both language and law, as well as in the use of MT systems, postediting practices, translation ethics, and how to critically assess AI-generated

output. The results provide practical advice to educators, professional organisations and technology developers on how to redesign translator training and processes in the face of industry-linked change.

Finally, the paper will contribute to broader discussions about changing translator functions. As MT shifts the translator's role away from that of a solitary language expert toward a partnership with technology, this study examines how translators respond to and work with slower-to-develop tools to address their ongoing professional challenges. And in that, it showcases the centuries-old value of human expertise for high-quality, reliable LT in an increasingly automated world.

1. Legal Language

LL, also known as Legalese, is a specialised register distinct from everyday language and plays a crucial role in legal systems. It is essential not only for legal professionals but also for ensuring the clarity and effectiveness of the justice system. It is the language of statutes, regulations, case laws, contracts, and legal commentaries. It is the medium through which law is both expressed and operationalised, ensuring that legal intentions are consistently and clearly explained (Shidarta, 2017). Tiersma adds that LL refers to the variety of languages employed by legal professionals, including lawyers, legislators, and judges, in their work (Tiersma, 1999). LL is shaped by words and influences from languages such as English, Latin, French, and Hindi and is not a separate language but ordinary language adapted for legal contexts, where common words gain specialised or technical meanings. Due to these specialised meanings, LL can be complex and require trained legal professionals for interpretation. The constitution's language forms a foundational part of LL.

LL is a specialized variety of English used in drafting, interpreting, and applying the law, and it has developed its own conventional style, terminology, and communicative purposes. Legal scholars emphasize that it is not simply ordinary English, but a technical register characterized by formal tone, ritualized expressions, and a strong reliance on specialized vocabulary and fixed phrases that have acquired precise legal meanings over time. Because legal texts such as contracts,

statutes, and court pleadings must be authoritative and resistant to multiple interpretations, LL often favors archaisms, long complex sentences, and dense nominal structures, all of which are intended to signal formality and ensure stability and predictability of meaning across cases and over long periods. (Dakhil and Hawel, 2024). Translating legal texts requires not only linguistic fluency but also cultural and jurisprudential mediation (Cao, 2007; Khalaf et al., 2022). Legal concepts are deeply embedded in their original legal and cultural history, making direct translation problematic and highlighting the importance of functional equivalence (Chroma, 2007). As legal systems become more globalised, the demand for legal translators increases, emphasising their dual role as legal and cultural mediators (Hasani, 2020).

Legal discourse employs rhetorical strategies such as performative language and nominalisation, which lend legal weight but can be difficult for non-experts. In conclusion, LL is a multifaceted, institutionalised, and culturally embedded mode of communication necessary to legal systems, with unique properties that ensure precision but also create obstacles to comprehension and translation.

The history of LL is intertwined with the evolution of law, influenced by linguistic and social changes. It developed from oral traditions, with laws enacted through performance and later recorded as inscriptions. LL absorbed terms from Latin and French, shaping its vocabulary and style. The trilingual system of medieval England, Latin for records, French for pleadings, and English for daily communication, contributed to the unique language and phrasing of English law. Law French persisted in legal contexts, and many French-derived terms became entrenched in English legal vocabulary. The system also led to stylistic conventions like binomial and trinomial expressions. Over time, LL incorporated a vast number of terms from Latin and French. As English reasserted itself, French and Latin were gradually replaced in courts. The Statute of Pleading of 1362 declared that court proceedings must be in English, though implementation was gradual. LL's evolution reflects language change, institution-building, and cultural interaction, with ongoing efforts to make it more accessible.

3. Characteristics of Legal Language

LL constitutes a highly specialised register shaped by both its historical evolution and the functional demands of the legal system. During the medieval period, English law operated in a trilingual environment, Latin for court records, French for legal pleadings, and English for daily use, resulting in a complex and unique legal vocabulary. LL's syntax is characterised by long sentences, passive constructions, and nominalisations, which foster formality and a detached tone. Though aiming for precision, LL frequently uses indeterminate terms and ancient vocabulary, combining both ambiguous and exact language.

Precision is fundamental in LL, with legal documents drafted meticulously to avoid ambiguity, often through exhaustive lists and precise definitions. However, such precision can complicate clarity. Ambiguity or vagueness in legal texts usually leads to disputes, and while tools like dictionaries or interpretive canons help resolve them, they are not always decisive. The plain language movement seeks to enhance clarity by replacing archaic expressions with simpler terms, but absolute precision and accessibility remain difficult due to inherent legal uncertainties.

LL is also characterised by high formality and archaism, using old-fashioned terms and formulaic structures rooted in historical traditions and the influence of Latin and French. These features reinforce authority and seriousness but can hinder public understanding. Stylistic choices such as nominalisation and passive voice add to the complexity and neutrality. The persistence of archaic phraseology and resistance to reform are motivated by the belief that such language ensures authority and continuity, though critics argue it impedes accessibility. Efforts to modernise LL, such as the Plain English Movement, have made limited progress due to concerns about losing precision.

Complexity and ambiguity are persistent issues in LL, caused by intricate sentence structures, technical jargon, and the need for precision. Extended sentences with subordinate clauses and nominalisations make comprehension difficult. Ambiguity arises from polysemy, homonymy, and context-dependent meanings, necessitating repetition of nouns rather than pronouns. Foreign terms, especially from Latin and French, add to the technical nature and complexity, sometimes creating barriers to

understanding. Some foreign terms lack direct English equivalents and are essential for legal doctrine, yet their use often decreases clarity for laypersons. Simplification is advocated but must be carefully balanced with legal function.

The use of synonym coordination or binomials, such as "null and void," is common in LL, stemming from its trilingual roots. This practice serves to reinforce precision, cover interpretive gaps, and provide emphasis and clarity. Synonym coordination is classified into absolute, relative, and relevant types, each fulfilling different legal and rhetorical functions. Translating such pairs presents challenges, requiring careful selection to maintain legal meaning and intent.

Repetition and pronoun avoidance are deliberate strategies in LL to ensure precision and resolve referential ambiguity, even at the expense of stylistic elegance. This repetition is essential when multiple parties are involved and serves a rhetorical function by emphasising key points. However, excessive repetition can lead to verbosity and clutter.

Nominalisation, the conversion of verbs and adjectives into abstract nouns, is another hallmark of LL. It adds formality and abstraction, emphasises acts and consequences over agents, and supports the impersonal tone of legal texts. While nominalisation aids in creating universal and authoritative rules, it can also cause opacity and wordiness. LL is further defined by its impersonal style and reliance on passive voice, which upholds objectivity, neutrality, and authority. This style avoids personal pronouns and attributes actions to institutional roles, reinforcing formal authority. However, passive construction can obscure agency and reduce clarity, occasionally leading to interpretive challenges. Efforts like the Plain Language Movement promote clearer legal writing, advocating for strategic use of active voice and stylistic diversity, while recognising the ongoing need for precision, formality, and consistency.

4. Legal Translation

LT is a specialised discipline that bridges language and law, requiring not just fluency in multiple languages but also a deep understanding of legal systems and terminology. The process is critical because exactness in translating legal documents impacts on the rights and interests of individuals and organisations across borders. Legal translators must

convey not only words but also meaning, nuance, and legal effect, necessitating accuracy, sensitivity to legal systems, and consistency. LT is characterised by formal style and precise terminology, demanding both linguistic skill and legal knowledge.

In a globalised context, LT enables international cooperation, access to justice, and the upholding of legal processes across languages and cultures. It is a crucial practice for fairness and the rule of law. Leading experts define LT as rendering legal texts from a source to a target language while maintaining their functional and conceptual integrity within the constraints of the target legal system. This process requires knowledge of legal genres, terminology, register, and formality.

Different scholars highlight unique aspects: Rabeea (2025) emphasises the complexities of translating legal documents with cultural and religious content, noting that functional rather than literal equivalence is essential. Prieto Ramos (2014) traces the field's evolution towards a functionalist and communicative model, focusing on equivalence and pragmatic function. Šarčević presents LT as a mediation between distinct legal systems and cultures, underlining the importance of understanding both contexts and the challenges of legal equivalence and terminology (Šarčević, 2014). Sandrini stresses that LT concerns documents with legal relevance and should consider their purpose and legal environment, with examples ranging from contracts to receipts used as legal evidence (Sandrini, 2010).

Cao and Šarčević argue that LT requires recognising discrepancies between legal systems, with the translator ensuring accurate legal meaning. Consistency and accuracy are paramount, as emphasised by Šarčević, and inconsistency can lead to misinterpretation and potential legal dispute (Cao, 2007; Šarčević, 2014).

5. The Importance of Legal Translation

LT plays a critical role in today's globalised and multicultural legal landscape. As international communication intensifies across borders and cultures, the demand for accurate, functional, and culturally sensitive legal translations has never been greater. LT ensures not only the smooth functioning of international commerce and law but also the fundamental human right to access justice, especially in multilingual societies. Its

importance spans legal, economic, social, and cultural dimensions. This importance can be listed as follows:

- **Cross-System Communication:** Legal translators act as mediators between distinct legal traditions, ensuring accurate interpretation and legal certainty, especially in supranational organisations.
- **International Commerce:** Accurate LT is essential for multinational contracts, regulatory harmonisation, and clarity in global business, with English serving as the primary LL.
- **Access to Justice:** Translation ensures that non-native speakers can fully participate in legal proceedings, supporting equality and fairness in multilingual societies.
- **Multilingual Legal Systems:** Precision in translation upholds equal legal standards and prevents discrepancies across official-language versions of statutes and treaties.
- **Cultural Exchange and Legal Development** LT foster international cooperation, comparative law development, and the sharing of legal knowledge, enhancing global understanding and cohesion.

Overall, LT is essential for justice, international business, cultural exchange, and the rule of law in an interconnected world.

6. Challenges of Legal Translation

LT faces significant challenges due to the complexity of LL, cultural differences, and the lack of equivalence between legal systems. Translators must have both linguistic proficiency and a deep understanding of legal systems and cultural contexts.

- **Lack of Equivalents:** Many legal terms and concepts do not have direct equivalents in other languages because legal vocabulary reflects a society's history, culture, and values. For example, the term "trust" in English has no counterpart in civil law systems like France or Italy and requires paraphrasing and creative solutions, which can introduce ambiguity or the need for disambiguation (Šarčević 34).
- **Ambiguity and Precision:** Legal texts demand exceptional clarity and accuracy, as ambiguity or incorrect translation can lead to serious legal consequences. Translators must be meticulous, since even minor mistakes can alter legal relationships and outcomes, requiring advanced linguistic and legal knowledge (Cao, 2007).

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- **Cultural and Conceptual Differences:** LT operates at the intersection of language, culture, and law, with LL deeply tied to the traditions and social structures of each society. Legal terms often lack true equivalents across languages and are best understood within their original culture. Interpretation and translation are influenced by religious, ethical, philosophical, and cultural factors. Translators must understand values, social relations, and institutional frameworks unique to each legal system (Sierocka, 2014). In a study on translating Iraqi legal documents, Hashoosh and Hawel found that many inaccuracies arise from insufficient cultural awareness and the lack of exact equivalents for Islamic legal terminology in English. Terms like mahr, iddah, and talaq are culturally bound and require careful translation to preserve both legal validity and cultural meaning. (Hashoosh and Hawel, 2025)
 - **Jurisdictional Differences:** Translating legal materials between jurisdictions is challenging because each country's legal system has its own rules, procedures, and philosophies. For example, common law systems rely on case-based reasoning and adversarial processes, while civil law systems are based on codified statutes and inquisitorial proceedings. Translators must master both jurisdictions' frameworks to accurately capture the original meaning and function (Cao, 2007).

7. Machine Translation

MT has evolved as a practical response to the growing need for multilingual communication in an interconnected world. It facilitates understanding among speakers of different languages and supports global information exchange. Before discussing its features and applications, it is essential to clarify what MT means.

MT has emerged as an indispensable tool in the digital age, profoundly shaping how societies, businesses, and individuals communicate across linguistic boundaries. As globalisation intensifies and cross-cultural exchanges become more frequent, the demand for rapid, reliable, and scalable translation has positioned MT as both a technological breakthrough and a social necessity (Garg and Agarwal, 2018). From casual conversations and education to international diplomacy, e-commerce, media, and legal documentation, MT is now at the center of the global information economy.

At its core, MT W. John Hutchins in his work *Machine Translation over Fifty Years* refers to it as the use of computer software to automatically translate text or speech from one natural language known as the source language (SL) into another, the target language (TL), to achieve equivalence in meaning and communication (Hutchins, 2001). It functions as a core application within computational linguistics and natural language processing, facilitating multilingual communication by overcoming language barriers in an increasingly interconnected world (Alsohybe et al., 2017). Luong similarly defines MT as "the application of computers to the task of translating texts from one natural language to another," to deliver coherent, accurate, and contextually appropriate translations with minimal human post-editing (Luong, 2016).

MT is an interdisciplinary field situated at the intersection of computational linguistics, computer science, and artificial intelligence. Over the last seventy years, it has evolved from rule-based systems with limited lexical coverage to sophisticated neural architectures that power services used by billions of users globally (Luong, 2016; Moghe, 2024). The process of MT involves analysing, generating, and transferring linguistic content across languages, employing a variety of computational techniques from manually encoded linguistic rules to data-driven deep learning models. Modern MT is evaluated not only on translation accuracy but also on more subtle linguistic parameters such as fluency, adequacy, and preservation of style and meaning.

Numerous authoritative definitions emphasise the technical and interdisciplinary nature of MT. Alsohybe et al. (2017) define it as the process of using computer software to translate texts from one natural language to another automatically. Denkowski likewise describes MT as "the application of computers to the task of translating texts from one natural language to another," aiming to generate coherent and contextually accurate translations with minimal human intervention (Denkowski, 2015). These converging definitions reflect a scholarly consensus: MT operates at the nexus of artificial intelligence, computational linguistics, and software engineering, aiming to emulate and assist human translation with growing fluency and precision.

MT represents one of the most transformative advancements in natural language processing. While it may not yet replicate the full depth of

cultural sensitivity and contextual understanding exhibited by professional human translators, its growing accuracy, accessibility, and ubiquity have rendered it an integral part of the global communication infrastructure. As MT technologies continue to evolve, they will further redefine how information is accessed, understood, and shared across linguistic and cultural borders.

The historical development of MT began with early ideas about universal languages in the seventeenth century and mechanical dictionaries in the 1930s. The invention of digital computers in the mid-20th century enabled the first MT experiments, notably the Georgetown-IBM demonstration in 1954. Initial research focused on direct word-based and interlingua approaches, but challenges such as linguistic ambiguity and context limited success.

The 1966 ALPAC report led to reduced funding in the U.S., shifting focus from fully automatic translation to tools assisting human translators. However, multilingual needs in Canada and Europe spurred continued research, resulting in projects like TAUM and Météo. The late 1970s and 1980s saw the emergence of commercial systems such as Systran, Logos, and METAL, with Japan contributing its own MT technologies.

Between 1976 and 1989, transfer-based and semantically rich models gained traction, and AI-based concepts were introduced. The late 1980s marked a shift to statistical machine translation (SMT) and example-based MT (EBMT). Rule-based and hybrid systems persisted into the 1990s and 2000s, incorporating advances in domain adaptation and speech integration. Recently, neural machine translation (NMT) built on deep learning has brought MT closer to human-like translation.

8. The Importance of Machine Translation

MT is a vital technology for bridging language gaps and enabling global communication. Its rapid advancement allows individuals, organisations, and governments to communicate and access information in real time, breaking down barriers and fostering multilingual interaction (Oroy and Smith, 2024). MT, powered by artificial intelligence and deep learning, enhances international collaboration across business, science, technology, and diplomacy, while promoting cultural exchange and inclusivity worldwide (Oroy and Smith, 2024). It plays a transformative

role in facilitating communication, expanding educational opportunities, particularly in underserved regions, and supporting professional translators through tools like post-editing, which increases efficiency (Li, 2020; Lin and Chien, 2009; Denkowski, 2015). Additionally, modern neural MT systems enable researchers to share scientific findings globally by providing swift, practical translations of academic content (Parra Escartín & Goulet, 2022).

9. Machine Translation and Legal Language

MT has significantly impacted the legal field by offering increased speed and cost efficiency, particularly in translating routine and standardised legal documents such as contracts and patents. However, challenges persist due to the complexity and specificity of LL, which can lead to mistranslations when terms lack direct equivalents or context is misunderstood (Giampieri, 2023). MT often struggles with the nuanced and jurisdiction-specific nature of legal texts, sometimes resulting in misrepresenting key legal concepts (Funelas, 2024). Issues of confidentiality also arise, as many MT systems process data externally, necessitating strict compliance with data protection laws and the implementation of internal safeguards like non-disclosure agreements and encryption (Funelas, 2024). To address these issues, a hybrid approach known as MT post-editing (MTPE) is widely recommended, where MT drafts are reviewed by human experts to ensure legal accuracy and compliance (Giampieri 2023; Funelas, 2024). Recent research underscores that, despite its benefits, MT cannot replace qualified legal translators in high-stakes scenarios, as human oversight is essential for preserving intended meaning and ensuring cultural and jurisdictional appropriateness (Giampieri 2023; Funelas, 2024).

10. The Methodology of the Study

This study systematically examines the quality of Arabic-English legal translations by comparing outputs from MT tools, specifically Google Translate and DeepL, with those produced by professional human translators. The evaluation centres on two core quality dimensions: accuracy and fluency, following the Multidimensional Quality Metrics (MQM) framework. Employing a mixed-methods sequential explanatory

design, the study integrates quantitative and qualitative analyses to provide a comprehensive assessment of translation performance.

In the quantitative phase, a curated set of complex legal texts is translated using both MT tools and human experts. Translation errors are systematically annotated according to the MQM taxonomy, distinguishing between accuracy-related issues (such as mistranslations, omissions, and terminological inconsistencies) and fluency-related problems (including grammar, cohesion, and syntactic structure). A panel of bilingual legal experts, blinded to the translation source, evaluates the translations to ensure objectivity. Their findings are subsequently validated by a jury of experienced translators and legal linguists, bolstering inter-rater reliability and the credibility of the results.

The qualitative phase delves deeper, interpreting error patterns within their legal and linguistic contexts. Particular attention is paid to errors that could distort legal intent, result in cultural misalignment, or breach jurisdiction-specific norms. By comparing MT and human translations, the study identifies recurring issues and highlights the importance of human expertise in ensuring contextually appropriate and accurate legal translations.

Through this structured methodology, the study offers a rigorous, replicable approach to evaluating LT quality, yielding insights that can inform both MT development and professional translation practices.

11. The Model of The Study

This study is grounded in the Multidimensional Quality Metrics (MQM) model, a standardised framework for assessing translation quality across domains. MQM is especially suited to legal translation, providing a comprehensive error taxonomy that evaluates accuracy (correct meaning and terminology) and fluency (grammar and style).

The framework's adaptability allows for tailored assessment criteria to match the demands of legal texts. Each translation, machine or human, is annotated for errors using MQM categories, with both quantitative (error frequency, severity) and qualitative (context-based impacts) measures.

This approach ensures a transparent, reliable comparison of translation quality, facilitating objective evaluation and supporting improvements in both MT systems and professional LT practice.

12. Data Analysis

This study employs a systematic methodology to evaluate the quality of legal translations produced by both MT systems (Google Translate, DeepL) and certified human translators. Using the Multidimensional Quality Metrics (MQM) framework, the study rigorously assesses translation quality by focusing on two core dimensions: accuracy (faithfulness to legal meaning and correct terminology) and fluency (linguistic correctness, including grammar, cohesion, and style). Each translated text is aligned at the sentence level and manually annotated for errors by type, such as mistranslation, omission, addition, or misinterpretation, and by severity (Minor, Major, Critical), with numerical weights assigned to enable statistical comparison. The penalty for each category is calculated as: $\text{Penalty} = [(\text{Minor} \times 1) + (\text{Major} \times 5) + (\text{Critical} \times 10)] \div \text{Total Word Count} \times 100$, and the Overall Translation Quality (TQ) Score is determined by: $\text{TQ} = 100 - \text{Penalty for Accuracy} - \text{Penalty for Fluency}$. This dual approach delivers both detailed and comparable quality scores, distinguishing error types while providing an aggregate assessment of translation performance.

For qualitative analysis, the study examines recurring error patterns to understand their causes and legal impact, categorising them as semantic (meaning-related) or syntactic (structural/grammatical). Representative translation excerpts are analysed to highlight common issues, such as the mistranslation of legal terminology, omission of critical clauses, or the insertion of unintended nuances. The analysis also explores contributing factors, including language ambiguity or limitations inherent in translation tools. Importantly, all personal identifiers in legal texts are anonymised to protect privacy and maintain professional standards.

The comparative evaluation is conducted using nineteen authentic legal texts sourced from official court documents and Iraqi legal articles published in the Iraqi Official Gazette. These texts encompass a range of legal genres, including statutes, judicial rulings, and procedural documents, providing a diverse and representative corpus. Each translation, produced by Google Translate, DeepL, and a human professional, is systematically compared to the original source text, and errors are identified and assessed for their implications on meaning transfer. Accuracy errors refer to distortions caused by mistranslation,

omission, or misinterpretation, while fluency errors pertain to linguistic quality and naturalness. Even a single critical inaccuracy can have significant consequences for legal interpretation and judicial outcomes, and poor fluency may obscure intended meaning, affecting comprehension and professional utility in judicial contexts.

To ensure objectivity and reliability, the researcher's error identification and categorisation are validated by a jury of three professional translators with expertise in translation studies and legal discourse. This jury independently reviews the error classifications and severity ratings, fostering inter-rater agreement and enhancing the credibility and transparency of the findings. Divergences between the researcher and the jury are discussed for a more nuanced evaluation, strengthening the study's academic rigor.

The identified errors are systematically presented in structured tables that display the source text alongside the three translation outputs, allowing for direct comparison. Each table categorises errors according to the MQM model and includes a description and severity rating (Minor, Major, Critical), clarifying each system's responsibility for specific errors. The tables also feature sub-markings for visual clarity:

- bold type in the Arabic source text indicates segments where errors originate.
- single underline in the target text marks accuracy errors.
- double underlining marks fluency errors.
- and shaded segments indicate where accuracy and fluency errors co-occur in the same phrase.

This format highlights patterns of error occurrence, the relative performance of machine and human translations, and the implications for LT quality, supporting nuanced quantitative and qualitative assessment.

The following tables provide a structured illustration of the evaluation process applied to translations produced by Google Translate, DeepL, and an expert human translator. Each table demonstrates how errors in accuracy and fluency are systematically identified and categorised according to their severity, allowing for rigorous comparative analysis of translation quality. This approach facilitates a detailed assessment of each system's performance.

Table - 1 –
Document No. 1
Marriage License Register No.: 3 Ref. No.: 390

ST	System	TT	Error Type	Severity
<p>عقد زواج</p> <p>إني قاضي محكمة الأحوال الشخصية في البصرة السيد --- سجلت ما هو آت:-</p> <p>حضر كل من السيد --- والأنسة --- دنماركية الجنسية والمؤيدة سلامتهما من الأمراض بالتقرير الطبي المقدم والتثبت من هويتهما ووقوع الإيجاب والقبول منهما فقد تم عقد الزواج بينهما واختارا تطبيق أحكام المذهب الشيعي الجعفري على جميع مسائل الأحوال الشخصية الخاصة بهما وعلى مهر معجله (خمسة ملايين دينار عراقي) مقبوض ومؤجله (خمسة ملايين دينار عراقي) (باق بذمة الزوج عند المطالبة والميسرة وعليه تم العقد وسجل في ٠٤/٠٥/٢٠٢٥ .</p> <p>القاضي ---</p>	GOOGLE	<p>Marriage Contract</p> <p>I, the judge of the Personal Status Court in Basra, Mr.---, have recorded the following: Mr. --- and Miss --- <u>Danish nationals</u>, were present, and <u>their health from disease</u> was confirmed by the submitted medical report, and their identities were verified, and the offer and acceptance were made by them. The marriage contract was concluded between them, and they chose to apply the provisions of <u>the Jaafari Shiite sect</u> to all matters of personal status pertaining to them, and to an immediate dowry (five million Iraqi dinars) received and a deferred dowry (five million Iraqi dinars) remaining due by the husband upon demand and availability. Accordingly, the contract was</p>	<p>Accuracy</p> <p>Fluency</p> <p>Accuracy</p>	<p>Major</p> <p>Minor</p> <p>Minor</p>

		concluded registered 05/04/2025. Judge	and on		
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Analysis:

Google's results imply that both the husband and the wife are Danish nationals. However, the Arabic explicitly states that only the wife (الأنسة - --- دنماركية الجنسية) is Danish. This misrepresentation could lead to legal misunderstandings about Nationality, inheritance, and jurisdiction, which are critical in official documentation and international law. The error directly affects a core identifying fact, making it a significant issue.

The phrase "their health from disease was confirmed" is considered a minor fluency error because it displays awkward grammar and is not idiomatic in English legal or medical documents. The construction "health from disease" is untraditional; it reflects a literal approach to translation that fails to produce a natural collocation. This reduces stylistic clarity and professionalism, as legal texts require precise and fluent expression to uphold their authority and minimise ambiguity. Despite the awkwardness, the intended meaning that both parties are free from disease and medically cleared for marriage is still apparent, so comprehension is minimally affected.

Lastly, in Google translation copy for the second contract, translating المذهب الشيعي الجعفري as "the Jaafari Shiite sect" is a minor accuracy error in legal contexts. In Iraqi law, the correct term is "Ja'fari jurisprudence," "Ja'fari Personal Status Law," or "Ja'fari school of law". The word "sect" in English primarily refers to a religious subgroup and carries informal, sometimes pejorative, or divisive connotations, rather than denoting its function as a recognised legal framework.

ST	System	TT	Error Type	Severity
<p>عقد زواج</p> <p>إني قاضي محكمة الأحوال الشخصية في البصرة السيد ---- سجلت ما هو آت:-</p> <p>حضر كل من السيد ---- والأنسة ---- دنماركية الجنسية و المؤيدة سلامتهما من الأمراض بالتقرير الطبي المقدم والتثبت من هويتهما ووقوع الإيجاب والقبول متهما فقد تم عقد الزواج بينهما واختارا تطبيق أحكام المذهب الشيعي الجعفري على جميع مسائل الأحوال الشخصية الخاصة بهما وعلى مهر معجله (خمسة ملايين دينار عراقي) مقبوض ومؤجله (خمسة ملايين دينار عراقي) (باق بذمة الزوج عند المطالبة والميسرة وعليه تم العقد وسجل في ٢٥/٠٥/٢٠٢٥ . .</p> <p>القاضي ---</p>	DEEPL	<p>Marriage Contract</p> <p>I, the judge of the Personal Status Court in Basra, Mr. ----, have recorded the following: Mr. ---- and Ms. --- - a <u>Danish national</u>, both of whom are in good health as confirmed by the medical report submitted, and whose identities have been verified, and both of whom have given their <u>consent and acceptance</u>, the marriage contract between them has been concluded, and they have chosen to apply the provisions of the Ja'fari Shi'a school of thought to all matters of their personal status, and the dowry is five million Iraqi dinars, received and deferred (five million Iraqi dinars) (remaining in the husband's possession until requested and affordable). The contract was concluded and registered on 05/04/2025.</p> <p>Judge ---</p>	<p>Accur acy Accur acy</p> <p>Accur acy</p> <p>Accur acy+ fluenc y</p>	<p>Major Minor</p> <p>Major</p> <p>Major</p>

Analysis:

First, in the DeepL translation copy, omitting the word حضر (were present) or "attended before me) in a marriage contract translation is a major accuracy error. Under the Iraqi Personal Status Law, confirmation of the parties' physical presence before the judge is a legal requirement for the validity of the contract. This procedural detail affirms that the contract was executed with the knowledge, consent, and official oversight of the court, a safeguard against coercion and misunderstanding.

Leaving out this phrase undermines the legitimacy of the contract, removes a critical step in procedural documentation, and could render the translation invalid for legal, consular, or judicial purposes. Thus, according to MQM, this error should be categorised as major due to its impact on contractual precision and enforceability.

The second error is that the Arabic text clearly states that only the woman (Ms. ----) is of Danish Nationality. The structure places "دنماركية الجنسية" directly after her name, marking her as the Danish national. DeepL's output with the phrase "Mr. ---- and Ms. --- - a Danish national" is ambiguous and easily misconstrued to mean both parties are Danish nationals. This ambiguity is particularly critical in official and legal contexts, where precise national identification has a direct impact on legal rights, documentation, and consular status. According to MQM standards, this constitutes a major accuracy error, as it alters a core legal fact.

The third error is that translating "الإيجاب والقبول" as "consent and acceptance" is incorrect and constitutes a major accuracy error. The phrase "الإيجاب والقبول" should be translated as (offer and acceptance) or (satisfaction and acceptance) in legal documents. This is the universally recognised formulation in contract law, signifying the proposal of terms by one party (the offer) and their unambiguous acceptance by the other (the acceptance), thus forming a legally binding contract.

The last error is clearly obvious in the phrase (وعلى مهر معجله (خمسة ملايين) دينار عراقي) مقبوض ومؤجله (خمسة ملايين دينار عراقي) (باق بذمة الزوج عند المطالبة (والميسرة)). Which translates as (and the dowry is five million Iraqi dinars, received and deferred (five million Iraqi dinars) (remaining in the husband's possession until requested and affordable)).

The translation does not clearly distinguish between the two separate types of dowries mandated by Iraqi law: the (immediate dowry) paid in full and received by the wife at marriage, and the (deferred dowry), which remains a debt owed by the husband and is payable only upon the wife's demand when he is financially able. The use of "received and deferred" in a single phrase blurs this critical legal difference. Furthermore, the phrase "remaining in the husband's possession" misrepresents the nature of the deferred portion, which is not held physically by the husband but is a binding liability, and this is clearly a major accuracy error. In the exact phrase, we can recognise a major fluency error, so the translation is clumsy and repetitive with "five million Iraqi dinars, received and deferred (five million Iraqi dinars)." It disrupts the flow and legal clarity by failing to demarcate the immediate and deferred portions clearly. The phrase "until requested and

"affordable" is informal and vague. Legal English demands a precise standard, such as "payable upon demand and when financially able," which is more accurate and more professional.

ST	System	TT	Error Type	Severity
<p>عقد زواج</p> <p>إني قاضي محكمة الأحوال الشخصية في البصرة السيد --- سجلت ما هوأت:-</p> <p>حضر كل من السيد --- والأنسة --- دنماركية الجنسية والمؤيدة سلامتهما من الأمراض بالتقرير الطبي المقدم والتثبت من هويتهما ووقوع الإيجاب والقبول منهما فقد تم عقد الزواج بينهما واختارا تطبيق أحكام المذهب الشيعي الجعفري على جميع مسائل الأحوال الشخصية الخاصة بهما وعلى مهر معجله (خمسة ملايين دينار عراقي) مقبوض ومؤجله (خمسة ملايين دينار عراقي) (باق بذمة الزوج عند المطالبة والميسرة وعليه تم العقد وسجل في ٠٤/٠٥/٢٠٢٥ .</p> <p>القاضي ---</p>	HUMAN	<p>Marriage License</p> <p>I, the judge of Civil Status Court in BASRA, Mr. ---, have registered the following:</p> <p><u>Attended before me each of the attorney of the husband, Mr. --- and Miss ---, Danish Nationality, whose immunity from diseases has been assured by the submitted medical report, and confirming their personalities via their Identity Cards, the existence of the both satisfaction and acceptance, the marriage had been made between them upon an advance dowry (5,000,000) five million IRQD, fully received– and a postponed dowry (5,000,000) five million IRQ, remaining as a liability to the wife with the husband upon demand and availability, thus this marriage license has been solemnised accordingly and registered on 04/05/2025. They have chosen the application of the Shiite (Jaafari) doctrine's provisions on all issues related their personal affairs.</u></p> <p>Judge.</p>	Accuracy	Major

Analysis:

The phrase "حضر كل من السيد --- والأنسة ---" in the Arabic marriage contract means "Mr. --- and Ms. --- were present". It explicitly states that both parties attended the marriage session in person, fulfilling a key procedural requirement under Iraqi law. The English translation, "Attended before me each of the attorneys of the husband, Mr. --- and Miss ---," is incorrect and introduces several accuracy issues of major

severity. The translation suggests that the husband was represented by his attorney rather than being personally present, which alters the legal context and may render the contract invalid for judicial or consular review. Iraqi law typically presumes and requires the personal attendance of both parties, unless a valid proxy is documented separately. The Arabic source does not mention any attorney; instead, the translation should clearly state that both individuals were present themselves.

MQM SCORING:**GOOGLE:**

Number of words: 115

Accuracy penalties: (minor= 1), (major= 1), (critical= 0)

fluency penalties: (minor= 1), (major= 0), (critical= 0)

(accuracy/ fluency) Penalty = [(Number of Minor Errors × 1) + (Number of Major Errors × 5) + (Number of Critical Errors × 10)] ÷ Total Word Count × 100

Accuracy Penalties = [(1× 1) + (1 × 5) + (0 × 10)] ÷ 115 × 100 = 5.2

Fluency Penalties = [(1× 1) + (0 × 5) + (0 × 10)] ÷ 115 × 100 = 0.8

TQ=100–PenaltyAccuracy–PenaltyFluency

TQ=100–5.2–0.8

=94 %

DEEPL:

Number of words: 122

Accuracy penalties: (minor= 1), (major= 3), (critical= 0)

fluency penalties: (minor= 0), (major= 1), (critical= 0)

(accuracy/ fluency) Penalty = [(Number of Minor Errors × 1) + (Number of Major Errors × 5) + (Number of Critical Errors × 10)] ÷ Total Word Count × 100

Accuracy Penalties = [(1× 1) + (3 × 5) + (0 × 10)] ÷ 122 × 100 = 13

Fluency Penalties = [(0× 1) + (1 × 5) + (0 × 10)] ÷ 122 × 100 = 4

TQ=100–PenaltyAccuracy–PenaltyFluency

TQ=100– 13– 4

= 83 %

HUMAN:

Number of words: 130

Accuracy penalties: (minor= 0), (major= 1), (critical= 0)

fluency penalties: (minor= 0), (major= 0), (critical= 0)

(accuracy/ fluency) Penalty = [(Number of Minor Errors × 1) + (Number of Major Errors × 5) + (Number of Critical Errors × 10)] ÷ Total Word Count × 100

Accuracy Penalties = [(0× 1) + (1 × 5) + (0 × 10)] ÷ 130 × 100 = 3.8

Fluency Penalties = [(0× 1) + (0 × 5) + (0 × 10)] ÷ 130 × 100 =

0TQ=100–PenaltyAccuracy–PenaltyFluency

TQ=100–3.8 –0 = 96%

THE JURY EVALUATION:

A. Totally Agree B. Agree C. Neutral D. Disagree

Table - 2 -

Document No. 2

The Deed of Interdiction and Guardianship No. 37

ST	System	TT	Error Type	Severity
<p>أنا قاضي محكمة الأحوال الشخصية في --- السيد -- -قررت تسجيل ماهو آت: بناءً على الطلب المقدم من السيدة / --- والمختصة بطلب حجر --- لكونها (تخلف عقلي / متلازمة داون) و لعدم قدرتها على رعاية شؤون نفسها ولثبوت ذلك بموجب كتاب (دائرة صحة البصرة / شعبة اللجان الطبية) والمرقم بالعدد --- في --- قررت المحكمة حجرها ونصبت (والديها) --- قيما عليها لإدارة شؤونها والمحافظة على حقوقها على أن لا تتصرف بأموالها المنقولة وغير المنقولة الا باذن من مديرية رعاية القاصرين المختصة وصدرت هذه الحجة بتاريخ /</p>	GOOGLE	<p>I, Judge of the Personal Status Court in ---, Mr. ---, have decided to record the following: Based on the request submitted by Ms. / ---, <u>who is the competent authority to request the guardianship of ---</u> because she has (mental retardation / Down syndrome) and her inability to take care of her own affairs, and as this is proven by the letter (Basra Health Department / Medical Committees Division) numbered --- in ---, the court has <u>decided to place her under guardianship.</u> And appointed (her mother) --- as her guardian to manage her affairs and preserve her rights, provided that she does not dispose of her movable and immovable property except with the permission of the</p>	<p>Accura cy Accura cy</p>	<p>Critical Major</p>

طالبة الحجة ---		competent Directorate of Minors' Care. This document was issued on the date of / Requesting the document / --- Name of the competent employee--- Judge's signature		
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Analysis:

The first error is a critical one because the Arabic phrase: والمختصة بطلب حجر means Ms. --- submitted the request for guardianship (i.e., is petitioning for the legal incapacitation of another), not that she *is* the authority. This changes the legal role and could create confusion about who initiated the application and who is affected by it.

The second error in the Arabic source text, ((قررت المحكمة حجرها)) should be rendered as "the court decided to declare her legally incapacitated" or "the court decided to place her under interdiction." However, Google's output "the court has decided to place her under guardianship" omits the formal judicial act of interdiction, which is central to the meaning of the original. The term (حجر) in Arabic legal usage refers to a binding court decision that removes or restricts an individual's legal capacity; guardianship is merely the procedural outcome that follows such a declaration. By reducing the act to "placing under guardianship," the translation weakens the legal force and intent of the ruling, misrepresents the legal status change, and risks creating misunderstandings in courts or administrative contexts. This constitutes a Major Accuracy error.

ST	System	TT	Error Type	Severity
أنا قاضي محكمة الأحوال الشخصية في --- السيد -- - قررت تسجيل ما هو آت: بناءً على الطلب المقدم من السيدة / --- والمختصة بطلب حجر --- لكونها (تخلف عقلي / متلازمة داون) ولعدم قدرتها على رعاية شؤون نفسها ولثبوت ذلك بموجب كتاب (دائرة صحة البصرة / شعبة اللجان الطبية) والمرقم بالعدد --- في --- قررت المحكمة حجرها	DEEPL	I, the judge of the Personal Status Court in ---, Mr. ---, have decided to record the following: <u>Based on the request submitted by Ms. ---, who is competent to request guardianship ---</u> due to her mental disability (Down syndrome) <u>and her inability to take care of her own affairs</u> , as proven by a letter from the	Accuracy fluency Accuracy	Major Major Major

<p>ونصبت (والدتها) --- قيما عليها لإدارة شؤونها والمحافظة على حقوقها على أن لا تتصرف بأموالها المنقولة وغير المنقولة الا باذن من مديرية رعاية القاصرين المختصة وصدرت هذه الحجة بتاريخ / طالبة الحجة ---</p>		<p>Basra Health Department/Medical Committees Division, numbered --- in ---, <u>the court has decided to place her under guardianship</u> and has appointed (her mother) – as her guardian to manage her affairs and protect her rights, provided that she does not dispose of her movable and immovable property except with the permission of the competent Directorate of Minors' Welfare. This ruling was issued on the date of/ Applicant/ --- Name of the competent official-- --</p>		
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Analysis:

First, the Arabic phrase makes it clear that Ms. --- is the petitioner requesting the court to declare another person incapacitated/interdicted. DeepL's translation suggests Ms. --- is herself eligible for guardianship, which confuses who is acting and who is acted upon.

The second section illustrates that the translation raises two concerns regarding accuracy and fluency. First, the pronoun "her" in the phrase "the court has decided to place her under guardianship" is ambiguous. It does not explicitly establish whether "her" refers to the petitioner (the woman submitting the request) or to the individual subject to interdiction. In Arabic, the referent is clear because *حجرتها* grammatically and contextually points to the person being interdicted; in English, however, the ambiguity can mislead the reader about who has lost legal capacity. The second error of fluency type and major severity is the pronoun 'her', which is ambiguous and does not clearly link to the party being interdicted.

Another major error in the next section is that it is clear that in the source text, *قررت المحكمة حجرتها* refers to the court's formal judicial act of

declaring a person legally incapacitated, also known as interdiction. This declaration is critical because it constitutes the legal status change upon which guardianship is later based. However, the translation "the court has decided to place her under guardianship" reduces this act to its procedural consequence, guardianship, while omitting the explicit judicial finding of incapacity. This omission weakens the legal force of the ruling, as it no longer conveys the court's authoritative act of removing legal capacity, but instead suggests only the appointment of a guardian.

ST	System	TT	Error Type	Severity
<p>أنا قاضي محكمة الأحوال الشخصية في --- السيد -- - قررت تسجيل ماهوأت: بناءً على الطلب المقدم من السيدة / --- والمختصة بطلب حجر --- لكونها (تخلف عقلي / متلازمة داون) و لعدم قدرتها على رعاية شؤون نفسها ولثبوت ذلك بموجب كتاب (دائرة صحة البصرة / شعبة اللجان الطبية) والمرقم بالعدد --- في --- قررت المحكمة حجرها ونصبت (والدها) --- قيما عليها لإدارة شؤونها والمحافظة على حقوقها على أن لا تتصرف بأموالها المنقولة وغير المنقولة الا باذن من مديرية رعاية القاصرين المختصة وصدرت هذه الحجة بتاريخ/ طالبة الحجة ---</p>	HUMAN	<p>I, the judge of the Civil Status Court in --- District, Mr. ---, have decided the following: Based on the application submitted by Mrs. ---, containing a request for interdicting --- as she suffers from mental retardation / Down Syndrome), and could not care her own affairs. This case has been confirmed by a letter issued by the Directorate of Basra Health/Medical Committees Division under No. --- on ---. The court has decided to retardate her, and to appoint her mother Mrs. --- as a custodian of ---, and to take care of her rights, provided that her movable and immovable properties shall not be disposed without a permission issued by the competent Juvenile Care Directorate. This deed has been issued on ---. The Deed of Interdiction and Guardianship is requested by:</p>	None	/

Analysis:

The text translated by the human translator appears to be free of accuracy errors and fluency errors.

MQM SCORING:

GOOGLE:

Number of words: 149

Accuracy penalties: (minor= 0), (major= 1), (critical= 1)

fluency penalties: (minor= 0), (major= 0), (critical= 0)

(accuracy/ fluency) Penalty = [(Number of Minor Errors × 1) + (Number of Major Errors × 5) + (Number of Critical Errors × 10)] ÷ Total Word Count × 100

Accuracy Penalties = [(0× 1) + (1 × 5) + (1 × 10)] ÷ 149 × 100 = 10

Fluency Penalties = [(0× 1) + (0 × 5) + (0 × 10)] ÷ 149 × 100 = 0

TQ=100–PenaltyAccuracy–PenaltyFluency

TQ=100–10–0

=90 %

DEEPL:

Number of words: 140

Accuracy penalties: (minor= 0), (major= 2), (critical= 0)

fluency penalties: (minor= 0), (major= 1), (critical= 0)

(accuracy/ fluency) Penalty = [(Number of Minor Errors × 1) + (Number of Major Errors × 5) + (Number of Critical Errors × 10)] ÷ Total Word Count × 100

Accuracy Penalties = [(0× 1) + (2 × 5) + (0 × 10)] ÷ 140 × 100 = 7

Fluency Penalties = [(0× 1) + (1 × 5) + (0 × 10)] ÷ 140 × 100 = 3.5

TQ=100–PenaltyAccuracy–PenaltyFluency

TQ=100– 7– 3.5

= 89.5 %

HUMAN:

Number of words: 125

Accuracy penalties: (minor= 0), (major= 0), (critical= 0)

fluency penalties: (minor= 0), (major= 0), (critical= 0)

(accuracy/ fluency) Penalty = [(Number of Minor Errors × 1) + (Number of Major Errors × 5) + (Number of Critical Errors × 10)] ÷ Total Word Count × 100

Accuracy Penalties = [(0× 1) + (0 × 5) + (0 × 10)] ÷ 125 × 100 = 0

Fluency Penalties = [(0× 1) + (0 × 5) + (0 × 10)] ÷ 130 × 100 = 0

TQ=100-PenaltyAccuracy-PenaltyFluency

TQ=100 - 0 - 0 = 100%

THE JURY EVALUATION:

A. Totally Agree B. Agree C. Neutral D. Disagree

Table - 3 -

Document No. 3

Law No. (188) of the Year 1959 Personal Status Law/ Article 9

ST	System	TT	Error Type	Severity
<p>قانون الأحوال الشخصية رقم "١٨٨" لسنة "١٩٥٩"</p> <p>المادة التاسعة</p> <p>١- لا يحق لأي من الأقارب أو الأغبيار إكراه أي شخص، ذكراً كان أم أنثى على الزواج دون رضاه، ويعتبر عقد الزواج بالإكراه باطلاً إذا لم يتم الدخول، كما لا يحق لأي من الأقارب أو الأغبيار، منع من كان أهلاً للزواج، بموجب أحكام هذا القانون من الزواج</p> <p>2- يعاقب من يخالف أحكام الفقرة (١) من هذه المادة، بالحبس مدة لا تزيد على ثلاثة سنوات، وبالغرامة أو بإحدى هاتين العقوبتين، إذا كان قريباً من الدرجة الأولى. أما إذا كان المخالف من غير هؤلاء، فتكون العقوبة السجن مدة لا تزيد على عشر سنوات، أو الحبس مدة لا تقل عن ثلاث سنوات.</p> <p>٣- على المحكمة الشرعية، أو محكمة المواد الشخصية الإشعار إلى سلطات التحقيق لاتخاذ التعقيبات القانونية بحق المخالف لأحكام الفقرة (١) من هذه المادة. ولها توقيفه لضمان حضوره أمام السلطات المذكورة، ويحق لمن تعرض للإكراه أو المنع، مراجعة سلطات التحقيق مباشرة بهذا الخصوص.</p>	GOOGLE	<p>Personal Status Law No. 188, Resolution No. 1959 Article Nine</p> <p>: 1. <u>It is no different from the coercion of any person, male or female, by any relative or third party into marriage without their consent.</u> A forced marriage contract is considered void if the marriage is not consummated. <u>Neither relatives nor third parties may refuse to exclude anyone who is eligible for marriage under this law from marriage.</u></p> <p>2. Anyone who violates Clause (1) of this Article shall be punished by imprisonment for a period not exceeding three years, and by a fine, or by both of these penalties, if the violator is a first-degree relative. If the violator is not one of these persons, the penalty <u>shall be imprisonment for a period of not less than three years, or by confinement for a period of not less than three</u></p>	<p>Accuracy</p> <p>Accuracy</p> <p>Accuracy</p> <p>Accuracy + fluency</p>	<p>Major</p> <p>Major</p> <p>Critical</p> <p>Major</p>

		<p>years.</p> <p>3.Regarding Sharia rulings, or the Personal Status Court, notifications shall be made to the investigating authorities to take legal action against anyone who violates the provisions of Clause (1) of this Article. He was asked to appear before the aforementioned authorities, and whoever was forced to do so has the right to force or prevent him, and to carry out the investigation procedures directly in this regard.</p>		
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Analysis:

First, a major error of accuracy is apparent in the translation of the Arabic text " لا يحق لأي من الأقارب أو الأغيار إكراه أي شخص على الزواج دون "رضاه", which explicitly prohibits anyone, whether a relative or an outsider, from compelling a man or woman to marry without consent. Translating it as "It is no different from the coercion of any person..." removes the element of prohibition and obligation, weakening the legal force of the statement. This misrendering shifts the meaning from an explicit legal proscription to an ambiguous observation lacking normative authority.

Second, the Arabic text " لا يحق لأي من الأقارب أو الأغيار، منع من كان أهلاً للزواج "من الزواج" explicitly prohibits anyone, whether a relative or outsider, from preventing an eligible person from marrying. The translation "refuse to exclude anyone eligible" fails to convey this legal prohibition, resulting in a semantically distorted and syntactically confused sentence. The rendering not only misrepresents the source meaning but also creates legal incoherence, which is classified as a major accuracy error.

Third, a critical error occurs in the translation of the Arabic text, " السجن "مدة لا تزيد على عشر سنوات، أو الحبس مدة لا تقل عن ثلاث سنوات", which clearly distinguishes between two levels of punishment: imprisonment for a term not exceeding ten years and detention for a term not less than three years. The English translation, however, renders both as "confinement

for a period of not less than three years," effectively collapsing the two distinct penalties into a single one. This misrepresentation erases the distinction between major and minor offences, thereby undermining the proportional intent of the original statute.

Fourth, the Arabic clause " يحق لمن تعرض للإكراه أو المنع، مراجعة سلطات التحقيق " مباشرة " grants the right to any individual who has been coerced or prevented from marriage to directly approach the investigative authorities. The MT, rendered as "He was asked to appear before the aforementioned authorities..." and "whoever was forced to do so has the right to force or prevent him...", distorts the meaning entirely. It confuses grammatical subjects and pronouns, resulting in syntactic incoherence and semantic ambiguity that obscure who possesses the right and who performs the action.

Such errors eliminate the clear allocation of rights and duties present in the original Arabic text, turning a straightforward legal entitlement into an unintelligible and misleading statement. It is an accuracy and fluency error at the same time, both of which are of major severity.

ST	System	TT	Error Type	Severity
<p>قانون الأحوال الشخصية رقم "١٨٨" لسنة "١٩٥٩"</p> <p>المادة التاسعة</p> <p>١- لا يحق لأي من الأقارب أو الأغيار إكراه أي شخص، ذكراً كان أم أنثى على الزواج دون رضاه، ويعتبر عقد الزواج بالإكراه باطلاً إذا لم يتم الدخول، كما لا يحق لأي من الأقارب أو الأغيار، منع من كان أهلاً للزواج، بموجب أحكام هذا القانون من الزواج</p> <p>٢- يعاقب من يخالف أحكام الفقرة (١) من هذه المادة، بالحبس مدة لا تزيد على ثلاثة سنوات، وبالغرامة أو بإحدى هاتين العقوبتين، إذا كان قريباً من الدرجة الأولى. أما إذا كان المخالف من غير هؤلاء، فتكون العقوبة السجن مدة لا تزيد على عشر سنوات، أو الحبس مدة لا تقل عن ثلاث سنوات.</p> <p>٣- على المحكمة الشرعية، أو محكمة المواد الشخصية</p>	DEEPL	<p>Personal Status Law No. 188 of 1959</p> <p>Article 9</p> <p>: -1 No relative or stranger shall have the right to compel any person, male or female, to marry against his or her will, and a marriage contract entered into under duress shall be considered null and void if consummation has not taken place. Furthermore, no relative or stranger shall have the right to prevent a person who is eligible for marriage under the provisions of this law from marrying.</p> <p>-2 Anyone who violates the provisions of paragraph (1) of</p>	<p>Accuracy</p> <p>Fluency</p>	<p>Major</p> <p>Minor</p>

<p>الإشعار إلى سلطات التحقيق لاتخاذ التعقيبات القانونية بحق المخالف لأحكام الفقرة (١) من هذه المادة. ولها توقيفه لضمان حضوره أمام السلطات المذكورة، ويحق لمن تعرض للإكراه أو المنع، مراجعة سلطات التحقيق مباشرة بهذا الخصوص.</p>	<p>this article shall be punished by imprisonment for a term not exceeding three years and a fine, or by one of these two penalties, if they are a first-degree relative. <u>If the offender is not one of these, the penalty shall be imprisonment for a term not exceeding ten years or imprisonment for a term not less than three years.</u></p> <p>-3 The Sharia court or the personal status court shall notify the investigating authorities to take legal action against anyone who violates the provisions of paragraph (1) of this article. It may arrest him to ensure his appearance before the said authorities, and <u>anyone who has been coerced or prevented from doing so shall have the right to refer the matter directly to the investigating authorities.</u></p>	
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Analysis:

First, Arabic distinguishes between two levels of punishment imprisonment for a term not exceeding ten years and detention for a term not less than three years (السجن مدة لا تزيد على عشر سنوات، أو الحبس مدة لا تقل) (عن ثلاث سنوات). The MT, however, merges these into "imprisonment for a term not exceeding ten years or imprisonment for a term not less than three years," effectively rendering both penalties as imprisonment. This blurs the legal distinction between (long-term imprisonment) and (short-term detention), misrepresenting the law's intended hierarchy of penalties. The error, classified as Major (Accuracy), alters the proportionality of punishment and could lead to misinterpretation in legal contexts.

Second, the Arabic assigns procedural duties to the court and confers rights to victims of coercion (يحق لمن تعرض للإكراه أو المنع، مراجعة سلطات (التحقيق مباشرة). DeepL's version, "anyone who has been coerced or prevented from doing so shall have the right to refer the matter directly to the investigating authorities," captures the general meaning but introduces minor fluency issues. The pronoun "from doing so" lacks a clear referent, making the sentence less precise. At the same time, the legal function remains intact.

ST	System	TT	Error Type	Severity
<p>قانون الأحوال الشخصية رقم "١٨٨" لسنة "١٩٥٩"</p> <p>المادة التاسعة</p> <p>١- لا يحق لأي من الأقارب أو الأغيار إكراه أي شخص، ذكراً كان أم أنثى على الزواج دون رضاه، ويعتبر عقد الزواج بالإكراه باطلاً إذا لم يتم الدخول، كما لا يحق لأي من الأقارب أو الأغيار، منع من كان أهلاً للزواج، بموجب أحكام هذا القانون من الزواج</p> <p>٢- يعاقب من يخالف أحكام الفقرة (١) من هذه المادة، بالحبس مدة لا تزيد على ثلاثة سنوات، وبالغرامة أو بإحدى هاتين العقوبتين، إذا كان قريباً من الدرجة الأولى. أما إذا كان المخالف من غير هؤلاء، فتكون العقوبة السجن مدة لا تزيد على عشر سنوات، أو الحبس مدة لا تقل عن ثلاث سنوات.</p> <p>٣- على المحكمة الشرعية، أو محكمة المواد الشخصية الإشعار إلى سلطات التحقيق لاتخاذ التعقيبات القانونية بحق المخالف لأحكام الفقرة (١) من هذه المادة. ولها توقيفه لضمان حضوره أمام السلطات المذكورة، ويحق لمن تعرض للإكراه أو المنع، مراجعة سلطات</p>	HUMAN	<p>Law № (188) of the year 1959 Personal Status Law Article 9</p> <p>1- No relative or non-relative has the right to force marriage on any person, whether male or female, without their consent. The contract of a forced marriage is considered void if the marriage is not yet consummated.</p> <p>Moreover, none of the relatives or other people have the right to prevent whoever is eligible for marriage from being married by virtue of the provisions of this marriage law.</p> <p>2- A first degree relative who breaches the provisions of paragraph 1 of this article shall be sentenced to no more than three years imprisonment and charged with a fine of a specified amount. If the person who breaches this provision is not a first degree relative, he shall be sentenced to an imprisonment term varying from a minimum of three years to a maximum of ten years.</p> <p>3- The Shari'a Court or the Personal Status Court must notify the</p>	None	/

التحقيق مباشرة بهذا الخصوص.		investigation authorities of any violation of the provisions of paragraph 1 of this article so that they take legal action against the person in question. The court is entitled to hold him in custody to ensure his appearance before the said authorities. Furthermore, the person who was subject to coercion or prevention has the right to refer directly to the investigation authorities concerning this matter.		
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Analysis:

The human translation is perfect and error-free because it meticulously preserves the legal terminology, procedural structure, and factual nuances from the Arabic source.

MQM SCORING:**GOOGLE:**

Number of words: 209

Accuracy penalties: (minor= 0), (major= 3), (critical= 1)

fluency penalties: (minor= 0), (major= 1), (critical= 0)

(accuracy/ fluency) Penalty = [(Number of Minor Errors × 1) + (Number of Major Errors × 5) + (Number of Critical Errors × 10)] ÷ Total Word Count × 100

Accuracy Penalties = [(0× 1) + (3 × 5) + (1 × 10)] ÷ 209 × 100 = 11.9

Fluency Penalties = [(0× 1) + (1 × 5) + (0 × 10)] ÷ 209 × 100 = 2.3

TQ=100-PenaltyAccuracy-PenaltyFluency

TQ=100-11.9 -2.3

=85.8 %

DEEPL:

Number of words: 215

Accuracy penalties: (minor= 0), (major= 1), (critical= 0)

fluency penalties: (minor= 1), (major= 0), (critical= 0)

(accuracy/ fluency) Penalty = [(Number of Minor Errors × 1) + (Number of Major Errors × 5) + (Number of Critical Errors × 10)] ÷ Total Word Count × 100

Accuracy Penalties = [(0× 1) + (1 × 5) + (0 × 10)] ÷ 215 × 100 = 2.3

Fluency Penalties = [(1× 1) + (0 × 5) + (0 × 10)] ÷ 215 × 100 = 0.4

TQ=100–PenaltyAccuracy–PenaltyFluency

TQ=100– 2.3– 0.4=

= 97.3 %

HUMAN:

Number of words: 244

Accuracy penalties: (minor= 0), (major= 0), (critical= 0)

fluency penalties: (minor= 0), (major= 0), (critical= 0)

(accuracy/ fluency) Penalty = [(Number of Minor Errors × 1) + (Number of Major Errors × 5) + (Number of Critical Errors × 10)] ÷ Total Word Count × 100

Accuracy Penalties = [(0× 1) + (0 × 5) + (0 × 10)] ÷ 244 × 100 = 0

Fluency Penalties = [(0× 1) + (0 × 5) + (0 × 10)] ÷ 244× 100 = 0

TQ=100–PenaltyAccuracy–PenaltyFluency

TQ=100–0 –0

= 100%

THE JURY EVALUATION:

A. Totally Agree B. Agree C. Neutral D. Disagree

16. Conclusions

These results confirm the hypothesis set forth at the outset of this thesis: MT systems, while advancing in speed and utility, cannot approach the accuracy, context sensitivity, and reliability of human-expert LT in documents where fidelity and legal meaning are paramount. This study provides an in-depth empirical assessment of accuracy and fluency in Arabic–English LT by comparing human expertise with MT systems across a set of authentic legal contracts and statutory articles. Using the (MQM) framework, the study systematically identified and categorised translation errors that affect legal meaning and communicative reliability.

The analysis revealed that LT is a domain where fidelity to source meaning, terminological consistency, and contextual subtlety are paramount. Human translators, while not entirely immune to

inaccuracies, demonstrated acute sensitivity to legal nuance, logic, and the density of specialised terminology. The most frequent issues with human output, such as stylistic inconsistency or occasional lapses in register, were typically minor and rarely affected substantive legal interpretation.

MT, by contrast, displayed a distinct and problematic error pattern. The most consequential challenges and failures identified in the machine-generated translations are as follows:

1- Omission of essential legal clauses or qualifiers, so MT systems showed a marked tendency to omit conditional phrases and exception clauses, which are crucial for determining liability or eligibility. In several instances, segments specifying joint causation, delineating the scope of legal duties, or articulating statutory exceptions were entirely omitted, erasing distinctions that are central to the legal effect of the provision. In several analysed articles, the absence of a single conditional or exception phrase was sufficient to alter the party's potential exposure to legal liability in a substantive way.

2- Role reversals and agent/ client confusion. The analysis frequently uncovered reversals or ambiguities in the assignment of rights and obligations. In provisions dealing with marital law or criminal culpability, MT occasionally switched agents and recipients, as when a legal right or duty meant for the wife was erroneously assigned to the husband. Such errors can invert the law's intended effect, leading to substantial misinterpretation.

3- Terminological drift and misrendering. Technical legal terms were regularly mistranslated, replaced with literal equivalents that lacked legal specificity. Notably, terms such as (khula') were rendered as "extraction" instead of "divorce by compensation," and (iddah) as "number" instead of the intended legal term "waiting period," creating confusion and potentially undermining enforceability in cross-linguistic legal practice.

4- Register and idiomatic breakdown. It has been observed that many machine translations operate inappropriately close to the literal source, lacking the formality and idiomatic expression required in professional legal texts. At times, this resulted in ambiguous or awkward phrasing and diminished the gravitas expected in contractual or judicial documents.

17. Recommendations

Based on the analysis and error patterns observed in this study, the following recommendations are offered to maximise the quality and accuracy of Arabic–English LT in professional and institutional contexts:

1- Adopt Structured Quality Assessment Procedures:

In their reviewing practices, legal institutions and translators should incorporate detailed quality assessment tools, such as MQM. These tools support a structured approach to detecting and correcting errors, ensuring that translations meet the minimum legal quality standards.

2- Work towards Terminological Exactitude and Professional Training:

Legal translators need to be given specific training in legal terminology (comparative law and bilingual drafting practices). Continuing professional education courses and certification programs that address commonly mistranslated concepts (e.g., legal duties, causality, family law terms) will help mitigate the rise in terminology errors and safeguard meaning in translation.

3- Exercise Caution with Machine Translation:

MT software can be helpful for draft translations or personal use if you need the general meaning, but complete accuracy is not required. Nevertheless, no machine-generated translation should be considered applicable for legal purposes without appropriate human review and editing. This reduces the risk of omissions, misassignments, or misunderstandings that might otherwise affect the parties' rights and duties.

4- Standardised Handling of Proper Nouns and Institution Names:

The availability of a compiled legal glossary or clear guidelines for reporting institutional standards will help systemise the translation of proper names, institutions, and recurrent legal linguistic items. Elements of this practice ensure consistent comprehension and avoid the confusion that results from inconsistent naming or translation of titles.

5- Emphasise Rigorous Human Post-Editing:

Wherever MT is used, it should be post-edited by human experts. Editors should strive to restore accuracy and equivalence of legal concepts and terminology in maintaining the legal accuracy in drafting violence against women provisions.

6-Promote Robust Collaboration between Legal Experts and Translators: Active cooperation among legal scholars, judges, practising lawyers, and professional translators is indispensable for achieving high-quality legal translation. Legal professionals can offer translators critical insights into the practical meaning, nuanced context, and interpretive challenges inherent in statutory language and contractual terms. By fostering ongoing dialogue and joint review, this interdisciplinary partnership ensures that translated legal texts are both linguistically precise and legally authoritative. Moreover, collaborative research and regular consultations between law and translation experts, as seen in bilingual legal communication initiatives, align academic rigour with real-world practice, ultimately enhancing the clarity, reliability, and enforceability of multilingual legal documents.

18. Suggestions for Future Studies

This study focuses on written LL, a select group of MT platforms, and two principal dimensions of translation quality. To extend and deepen the insights gained here, future research in Arabic–English LT should address the following areas:

1-Expand Beyond Written Texts:

Future studies might investigate the translation and interpretation of spoken legal discourse, including courtroom exchanges, witness testimony, and live legal proceedings. Such study could illuminate unique challenges related to spontaneity, register, and error correction that written analysis cannot fully capture.

2-Broaden Quality Assessment Dimensions:

Scholars are encouraged to go beyond accuracy and fluency by including additional quality dimensions such as legal register, stylistic adequacy, and genre-specific requirements in the analysis. Applying an expanded MQM framework or similar models would yield a more holistic understanding of LT standards.

3-Widen the Range of MT Tools:

As this thesis primarily examined Google Translate and DeepL (an AI tool), forthcoming research should evaluate a broader array of MT architectures, including AI systems. Comparative studies across different

engines can help determine if specific tools offer advantages in legal fidelity.

4- Explore Post-Editing and Human-MT Synergy:

Investigation into the effectiveness and boundaries of human post-editing for MT-generated legal translations is warranted. Studies might measure not only surface improvements in fluency but also the extent to which expert reviewers can identify and rectify deep semantic or legal errors introduced by automated systems.

5-Focus on Cultural, Religious, and System-Specific Content:

Additional inquiry is advisable in the handling of culturally and religiously embedded concepts, particularly those central to family law, inheritance, and identity documents. Ethnographic studies or interviews with legal professionals and translators could uncover practical strategies for faithfully rendering these nuanced elements.

Notes:

1- This study is based on the researcher's M.A thesis, entitled "Machine Translation vs. Human Expertise – Evaluating Accuracy and Fluency in Arabic-English Legal Texts" / 2025, under the supervision of the second researcher.

2- The researcher brings a total of 19 documents, 10 are from both Basrah Federal Appeal Court and the bureau of the sworn translator lecturer Ahmed Falih Rabeea, and the remaining ones are from the Official Gazette of Iraq (Al-Waqai' Al-Iraqiyya).

3- The sworn translator is Lecturer. Ahmed Falih Rabeea from Department of Translation, College of Arts, University of Basrah.

4- The in-text citations and bibliography follow APA 7th edition format.

5- The head and the members of the Evaluation Jury, representatively, are Asst. Prof. Dr. Abdulsalam Abdulmajeed Saifuldeen, Asst. Prof. Dr. Dhahir Jafar Khaz'al, Asst. Prof. Nadia Odah Sultan. All of them are from the Department of Translation, College of Arts, University of Basrah.

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