



# The Future of Legal Assistance: How Chatbots Are Simplifying Legal Translation and Explanation

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## Abstract

This study examines the transformative role of AI-powered chatbots in legal translation and explanation, with a particular focus on English–Arabic contexts. It explores the theoretical foundations in natural language processing and machine learning that enable these systems to handle legal terminology and cross-linguistic challenges. The research highlights the shift from traditional, human-centric translation methods toward hybrid and fully automated AI solutions with specific emphasis on gains in efficiency, scalability, and accessibility. Through practical applications such as contract clause translation and interactive legal concept simplification, chatbots demonstrate significant potential to support both legal professionals and laypersons. However, the study also addresses persistent challenges, including data scarcity, ethical concerns around accuracy, and oversimplification. The paper concludes by outlining future advancements

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like multimodal interfaces and quantum-enhanced legal reasoning. It also calls for continued interdisciplinary collaboration and ethical oversight to fully realize the potential of chatbot-driven legal assistance.

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**Keywords**

Chatbots · Legal translation · Legal technology · AI · Legal explanation

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**Introduction**

The convergence of artificial intelligence (AI) and legal services is truly ushering in a new era. It is not just reshaping how legal practices have traditionally operated, but also significantly broadening access to justice for many. As technology continues its relentless march forward, AI-powered tools are increasingly woven into the very fabric of the legal profession. This ranges from automating mundane and routine tasks to offering crucial assistance in complex legal research and analysis. This shift in thinking, this new paradigm, is especially impactful when we consider legal translation and explanation. Here, the need for accurate, understandable, and efficient communication across different languages is absolutely critical. The global nature of legal work, coupled with a bewildering array of diverse legal systems and specialized terminologies, has historically presented immense hurdles for legal professionals and anyone seeking legal help. The intrinsic challenges of legal language, often characterized by its unique jargon, precise meanings, and culturally specific concepts, demand an exceptionally high degree of accuracy and expertise in translation. Consequently, this precision is vital to prevent misunderstandings and avoid potential legal pitfalls (Giampieri 2024).

Historically, legal translation has been an incredibly labor-intensive process, heavily relying on human expertise. While undeniably accurate, this approach can be both time-consuming and expensive. Although the evolution of technology, from early word processors to sophisticated machine translation systems, has gradually introduced efficiencies, the unique demands of legal discourse have often limited the effectiveness of general-purpose translation tools. In contrast, the advent of advanced AI, particularly Large Language Models (LLMs) and chatbots, represents a monumental leap forward (Way 2016). These technologies offer unprecedented capabilities in processing and generating text that remarkably resembles human communication (Atkinson et al. 2020). Thus, these technologies are now poised to fundamentally transform how legal information is translated and explained, making it far more accessible to a wider audience, including non-native speakers and individuals who are simply unfamiliar with legal challenges (Moneus and Sahari 2024).

This chapter aims to examine how chatbots are actively transforming legal translation and explanation. It explores the intricate mechanisms by which these AI-powered tools streamline the translation of challenging legal documents and

facilitate the clear, concise explanation of legal concepts to diverse audiences. To fulfill this aim, the study addresses the following core research questions:

1. What is the transformative role and potential of AI-powered chatbots in the field of legal translation and explanation?
2. How does the current landscape of AI-powered legal translation technologies compare to traditional human-centric and computer-assisted methods?
3. What are the specific challenges in English–Arabic legal translation, and how can chatbots address them in practical scenarios such as contract law?
4. What are the technical and ethical challenges that persist in the implementation and widespread adoption of legal chatbots?
5. What are the future directions for advancing legal assistance through chatbot technology?

The significance of this exploration extends beyond mere academic interest; it holds profound implications for both scholarly research and practical applications. Academically, it enriches the growing body of literature on AI in law, natural language processing (NLP), and legal informatics. Likewise, it offers invaluable insights into the theoretical foundation and practical consequences of integrating AI into legal communication. Practically, it provides a clear roadmap for legal professionals, technology developers, and policymakers, guiding them on how to harness these innovations to boost efficiency, cut costs, and promote greater access to legal information and services worldwide. The methodological approach adopted in this chapter involves a thorough review of existing literature concerning AI in legal services, legal translation, and chatbot technology. The study meticulously synthesizes findings from computer science, linguistics, and legal studies to offer a comprehensive understanding of the current landscape and its future trajectories. Furthermore, it analyzes case studies of chatbots within legal settings to vividly illustrate the tangible impact and identify best practices. This interdisciplinary approach is absolutely crucial for grasping the multifaceted challenges and exciting opportunities presented by the integration of AI into legal communication.

Hence, the emergence of chatbots as a powerful tool for legal assistance marks a pivotal moment in the ongoing evolution of legal services (Brooks et al. 2020). By directly addressing the long-standing challenges available in legal translation and explanation, these AI-driven solutions hold the promise of democratizing legal knowledge. As a result, they empower individuals and organizations to look at the intricacies of the legal landscape with significantly greater ease and confidence. The subsequent sections of this chapter will elaborate on the specific functionalities of chatbots in legal translation and explanation, discuss their advantages and limitations, and explore the ethical considerations and future implications of their widespread adoption. Through this detailed examination, the study aims to provide a comprehensive overview of how chatbots are not merely tools, but rather catalysts for a legal future that is more accessible, efficient, and equitable for all.

## Theoretical Foundations

The application of artificial intelligence (AI) in legal assistance, particularly through chatbots, is grounded in a strong theoretical foundation that draws on several interconnected disciplines. This convergence of fields, including Natural Language Processing (NLP), Machine Learning (ML) architectures, and Cross-Linguistic Legal Semantics, is what makes it possible for AI systems to perform sophisticated legal translation and explanation.

The foundation of any AI system that interacts with human language is NLP. Legal language, however, presents unique challenges for these systems. Characterized by its ambiguity and highly specific terminology, often called “legalese” (Ariai and Demartini 2024), legal language is quite different from everyday speech. Legal texts are meticulously structured and filled with technical terms, Latin phrases, and countless references to statutes and precedents. This specificity makes it difficult for general NLP models to accurately interpret legal documents. For instance, a single word can have a completely different meaning in a legal context, and the interpretation of legal texts often depends on the interplay of multiple clauses and sections (Nazarenko and Wyner 2017). Early NLP applications in law relied on rule-based systems and statistical methods (Alwazna et al. 2025). They focused on tasks like document classification and information retrieval through keyword matching. However, as Bhattacharya et al. (2019) note, these methods were limited and struggled with the specifics of legal language, which led to low accuracy and scalability. The shift toward statistical NLP and machine learning allowed for more interactive models that could learn patterns from large legal corpora. Techniques such as latent semantic analysis (LSA) and topic modeling began to offer deeper insights into the thematic content of legal documents (Ganguly et al. 2023). Further refining the ability of NLP systems to understand legal texts are computational linguistics approaches to legal discourse analysis (Vogel et al. 2018). These methods analyze the specific linguistic features of legal communication, including syntax, semantics, and pragmatics (Alwazna 2022). This has led to improvements in critical tasks such as identifying legal entities (e.g., parties, dates, jurisdictions), extracting legal relationships, and summarizing case facts. Boella et al. (2012) highlight that the development of specialized legal ontologies and knowledge graphs has been crucial in providing structured representations of legal concepts and their relationships, which in turn enables more accurate and context-aware NLP applications.

Furthermore, the efficacy of legal chatbots is heavily dependent on sophisticated Machine Learning (ML) architectures, particularly those built on neural networks. These models have revolutionized legal text comprehension by learning multifaceted patterns and representations directly from data, moving beyond the limitations of traditional rule-based or statistical methods (Górski and Ramakrishna 2021). Deep neural networks, like Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs), have been applied to various tasks, from classifying legal documents and analyzing the sentiment in legal opinions to predicting judicial outcomes by processing vast amounts of case law and precedents (Long et al. 2019).

These architectures excel at identifying intricate relationships within legal texts, such as the dependencies between clauses or the hierarchical structure of legal arguments. A particularly powerful paradigm in the legal domain is transfer learning, which addresses the common challenge of limited annotated legal datasets. As Savelka et al. (2021) explain, instead of training a model from scratch for each specific legal task, transfer learning involves pre-training a model on a large, general-purpose text corpus and then fine-tuning it on a smaller, domain-specific legal dataset. This approach allows legal chatbots to leverage a vast amount of linguistic knowledge, which significantly reduces the data requirements and training time for specialized legal applications. For example, a model pre-trained on general English can be fine-tuned on legal documents to better understand legal jargon and context, for the purpose of making it effective at tasks like contract review or legal research assistance.

Large Language Models (LLMs), on the other hand, represent the pinnacle of current NLP capabilities and are central to the functionality of modern legal chatbots. Models such as GPT and BERT have shown remarkable abilities in understanding context by generating coherent text and performing various language understanding tasks (Boitel et al. 2023). When adapted for legal contexts, these models are further pre-trained or fine-tuned on massive legal corpora, including statutes, case law, articles, and contracts (Chen et al. 2022). This domain adaptation allows LLMs to internalize legal reasoning and even generate legally sound responses or summaries. The ability of LLMs to process and generate human-like text makes them ideal for conversational AI in legal settings. They allow chatbots to answer questions, draft preliminary documents, and provide explanations in an accessible way. Elnaggar et al. (2018) stress the significance of transformer architectures, which underpin most state-of-the-art LLMs, for legal translation. Unlike traditional RNNs that process sequences sequentially, transformers use attention mechanisms to process all parts of an input sequence simultaneously. This is crucial in legal documents where a single concept or definition might be spread across multiple paragraphs. For legal translation, transformer models can maintain contextual coherence and secure the accurate transfer of complex legal meanings across languages, even when dealing with highly specialized terminology and intricate sentence structures. Their ability to process information in parallel also contributes to faster translation speeds, a major advantage in the time-sensitive legal profession.

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## Current Landscape of Legal Translation Technologies

The field of legal translation has undergone significant transformations. It evolved from purely human-centric processes to increasingly sophisticated technological integrations. This section delineates the current landscape of legal translation technologies. It examines traditional methods, the emergence of AI-powered systems, and the specialized architectures of legal chatbots.

Historically, legal translation has been predominantly a human endeavor. It heavily relied on the specialized knowledge and linguistic prowess of professional

legal translators. This human-centric approach maintains a high degree of accuracy and contextual understanding, which are paramount in legal discourse where a single misinterpretation can have severe consequences (Way 2016). Human translators possess the ability to explore the intricacies of legal systems, cultural specificities, and the subtle connotations embedded within legal terminology, often drawing upon years of experience and a deep understanding of comparative law. However, this method is undoubtedly time-consuming and costly, especially when dealing with large volumes of documents or urgent deadlines. Simonnæs and Kristiansen (2019) contend that the scalability of human translation is also limited, as it depends on the availability of qualified professionals, which can be a bottleneck in a globalized legal environment. To mitigate some of these limitations, computer-assisted translation (CAT) tools emerged as a significant aid in legal contexts. CAT tools, such as translation memories (TMs) and terminology management systems (TMSs), do not perform the translation themselves but rather assist human translators by providing access to previously translated segments and ensuring terminological consistency (Krüger 2016; Wang 2024). TMs store source and target language pairs. They allow translators to reuse identical or similar sentences. This is to improve efficiency and consistency across projects. TMSs, on the other hand, help manage and apply approved legal terminology, which is crucial for maintaining accuracy in highly specialized legal fields (Verplaetse and Lambrechts 2022). While CAT tools have undoubtedly enhanced productivity and consistency, they are not without limitations (O'Brien et al. 2017). They primarily function as repositories of past translations and do not necessarily understand the legal meaning or context of the text. This means that errors or inconsistencies in the original TM entries can be propagated, and the tools cannot independently resolve ambiguities or adapt to novel legal concepts (Jiménez-Crespo 2021). Moreover, the initial investment in building and maintaining comprehensive TMs and TMSs for specific legal domains can be substantial.

Therefore, hybrid approaches, combining human expertise with technological assistance, have also been explored to maximize the strengths of both. These often involve human translators post-editing machine translation (MT) outputs or using MT as a first pass, followed by thorough human review and revision (Daems and Macken 2020). While this can accelerate the translation process and reduce costs compared to purely human translation, Shi (2023) deduces that its effectiveness in legal contexts is highly dependent on the quality of the initial MT output and the expertise of the post-editor. Poor MT quality can lead to more time spent on post-editing than on translating from scratch, negating the efficiency gains (Alwazna 2024). The risks of misinterpretation and the potential for subtle errors to go unnoticed remain significant concerns, particularly in high-stakes legal documents (Moneus and Sahari 2024). Almoughles and Almekdad (2025) state that the cost-benefit analysis of traditional methods reveals a trade-off between accuracy, speed, and expense. Pure human translation offers the highest accuracy but at the highest cost and slowest speed. CAT tools improve speed and consistency but still require

significant human input and do not eliminate the need for deep legal understanding. Hybrid approaches attempt to strike a balance but introduce new challenges related to quality control and workflow management. The limitations of these traditional methods, particularly in terms of scalability and cost-effectiveness for large-scale legal translation needs, have paved the way for the exploration of more advanced, AI-powered solutions.

The limitations of traditional and CAT-assisted methods have spurred the rapid development and adoption of AI-powered legal translation systems. These systems, primarily driven by advancements in Neural Machine Translation (NMT), represent a significant leap forward in automating the translation process. Greńczuk et al. (2024) argue that NMT models, often based on deep learning architectures like transformers, are capable of learning advanced linguistic patterns and contextual relationships from vast amounts of parallel text data. This leads to more fluid and accurate translations compared to earlier statistical machine translation (SMT) systems. In fact, several commercial and academic systems have emerged in this space. Commercial offerings, such as DeepL Pro, Google Translate (with specialized legal domain models), and platforms like Bering Lab and NetDocuments AI tools, are increasingly being tailored for legal use cases (Telaumbanua et al. 2024; Giampieri 2024). These systems often boast features like enhanced security and the ability to handle various legal document formats. Academic research, on the other hand, focuses on pushing the boundaries of NMT for legal texts. It explores techniques for improving accuracy in specific legal sub-domains and handling low-resource languages to enhance contextual understanding (Altakhaineh and Alghathian 2025).

The capabilities of these AI-powered systems are impressive, particularly in terms of speed and scalability. They can translate large volumes of legal documents in a fraction of the time it would take human translators, significantly reducing turnaround times and operational costs (AI-Romany and Kadhim 2024). Veluru (2022) states that AI translation systems are increasingly being embedded within larger legal tech platforms, such as e-discovery solutions, contract lifecycle management (CLM) software, and legal research databases. This integration allows for seamless workflows, where legal documents can be translated on-demand as part of a larger legal process. By doing this, they raise efficiency and reduce manual data transfer. For example, an e-discovery platform might use AI translation to quickly review foreign language documents for relevance, or a CLM system might impact it to translate clauses in multi-jurisdictional contracts. This interconnectedness is crucial for maximizing the utility of AI translation within the practical realities of legal practice. Therefore, legal chatbots, as a specific application of AI in legal assistance, exhibit distinct architectural considerations, particularly concerning their design philosophy and multilingual capabilities. A fundamental distinction lies between domain-specific and general-purpose chatbot designs. General-purpose chatbots, while capable of broad conversational interactions, often lack the depth and precision required for legal contexts (Ghoshal 2025). Their knowledge base is typically

vast but shallow. This is what makes them prone to generating inaccurate or misleading legal information. In contrast, specialized legal chatbots are designed with a narrow, deep focus on legal domains (Jain and Kumar 2022; Russell and Norvig 2021). They are trained on extensive legal datasets, incorporate legal ontologies, and are often fine-tuned for specific legal tasks, such as contract analysis, or client intake (Boella et al. 2012). This domain-specific approach supports higher accuracy and relevance in legal responses, though it limits their applicability outside their designated legal area.

Machado and Oliveira (2014) mention that legal ontologies provide a structured, formal representation of legal concepts, their definitions, and their relationships (e.g., a “contract” is a type of “agreement,” and it “contains” “clauses”). By integrating these ontologies, chatbots can achieve a deeper understanding of legal texts, perform more accurate legal reasoning, and provide more precise answers. This integration allows chatbots to move beyond keyword matching to conceptual understanding. It enables them to extract relevant provisions and even infer legal implications based on established legal principles (Wachter and Mittelstadt 2018). For instance, a chatbot integrated with a property law ontology can accurately distinguish between different types of property ownership and their associated legal rights and obligations (Filipović et al. 2013). In fact, multilingual capabilities are a crucial feature for legal chatbots operating in a globalized legal landscape. Given the international nature of the need for accessible legal information across diverse linguistic communities, legal chatbots must be able to process and generate legal information in multiple languages. Current systems influence advanced NMT techniques, often combined with domain adaptation, to achieve high-quality multilingual legal translation and explanation. This allows a chatbot to understand a legal query in one language, process it against a multilingual legal knowledge base, and provide an answer or translation in another language (Rivas-Echeverría et al. 2025). Xuan and Xiaobo (2017), thus, provide that the challenge remains in maintaining not just linguistic accuracy but also legal and cultural equivalence across languages, particularly for detailed legal concepts. One other important feature of chatbots is the user interface. The user interface considerations for legal professionals and laypersons are paramount for the effective adoption and utility of legal chatbots (Umo 2025). For legal professionals, interfaces are designed to integrate seamlessly into existing workflows (ibid). It can offer features like document upload, batch processing, and integration with legal research databases. The output is often presented in a structured format, with citations and references to legal sources. This gives a chance for professionals to verify information and conduct further research. For laypersons, the interface prioritizes simplicity, clarity, and ease of use (Umo 2025). The language used by the chatbot is simplified to be understandable by non-lawyers, and explanations are often broken down into digestible chunks, with no complicated legal jargon (Perlman 2024; Huang et al. 2021). Features like interactive Q&A, guided pathways for common legal issues, and clear disclaimers about the non-binding nature of the advice are essential to establish accessibility and manage user expectations (Chromá 2008).

## Technical Implementation Challenges and Solutions

Goźdz-Roszkowski (2021) argues that the bedrock of any sound AI model, especially for highly specialized tasks like legal translation, is the quality and quantity of its training data. This principle is particularly true for legal chatbots, which require a rich and extensive collection of legal texts. The creation of a high-quality legal corpus is a painstaking process that involves the systematic gathering of a wide array of legal documents. This includes statutes, case law, contracts, and scholarly articles. This work is labor-intensive. It requires specialized legal expertise to make sure that the data is both relevant and accurate. Key challenges in this process include managing the diverse formats of legal documents and handling the sheer volume of information. The development of parallel corpora is especially critical for English-Arabic legal translation. As El-Farahaty et al. (2023) emphasize, this involves collecting original legal texts in one language alongside their corresponding human-translated versions in the other. This pairing is essential for teaching AI models the tangled relationships between legal concepts and their linguistic expressions across both languages (Mannonov et al. 2025). A significant obstacle, however, is the scarcity of high-quality, publicly available parallel legal corpora in English and Arabic (Samin and Osman 2024). Most existing corpora are either too general or cover limited sub-domains, lacking the necessary depth for comprehensive legal translation (Vigier and Sánchez 2017). As a result, researchers often find themselves building their own specialized corpora, a task that is both time-consuming and resource-intensive.

Prior to training an AI model, annotation strategies and quality control are crucial steps in preparing a legal corpus. According to Pontrandolfo (2019), annotation involves adding metadata to the text, such as part-of-speech tags, named entity recognition (e.g., identifying legal entities, dates, and jurisdictions), and semantic labels. For legal translation, this also includes aligning sentences or phrases across parallel texts to facilitate the training of machine translation models. The consistency and accuracy of these annotations are paramount, as any errors in the training data can propagate and compromise the AI model's performance. Therefore, quality control measures often involve using multiple annotators. The process invokes conducting inter-annotator agreement checks and having expert reviews to maintain high data integrity. The acquisition and development of legal corpora must also relate to significant privacy and confidentiality concerns. Legal documents frequently contain sensitive information, including personal data, confidential client details, and proprietary business information. As Ahmad (2017) points out, strict adherence to data protection regulations like GDPR and CCPA is essential. Solutions include using anonymization and data masking techniques to remove personally identifiable information, as well as using synthetic data when real data is too sensitive to be used. Additionally, secure data storage and access protocols are necessary to prevent unauthorized access and maintain the integrity of the corpus.

In fact, the true value of legal chatbots is realized when they are seamlessly integrated into the broader legal technology ecosystem. As Teuguia (2025) discusses, this necessitates the development of robust Application Programming

Interfaces (APIs) that allow chatbots to communicate and exchange data with various legal software solutions. API development is particularly crucial for integration with legal practice management systems (LPMS), which serve as central hubs for managing cases, clients, documents, and billing within law firms (Avuçlu and Yalçın 2024). By integrating chatbots via APIs, firms can automate tasks like translating client communications, summarizing documents, or retrieving case law directly within their LPMS. Such a process definitely assists in streamlining operations and reducing manual effort. To ensure that chatbots augment rather than disrupt a legal professional's daily operations, workflow integration considerations are paramount. This involves a deep understanding of existing legal workflows to design chatbot functionalities that fit naturally into these processes (Ejjami 2024). For example, a chatbot could be integrated into a document management system to automatically translate newly uploaded foreign legal documents or into an e-discovery platform to help review multilingual evidence. The ultimate goal is to create a cohesive and efficient environment where AI tools enhance human capabilities by offering an opportunity to legal professionals to dedicate more time to higher-value tasks. This approach alleviates the need for individual firms to build custom integrations and opt for a more open and collaborative legal tech landscape.

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## Explanation and Simplification of Legal Concepts

Klbal (2024) asserts that the challenge of simplifying legal concepts is significantly compounded in multilingual settings, where linguistic and cultural differences magnify the intrinsic details of legal language. To address this, multilingual plain language techniques apply the principles of clear communication across different languages, making legal information accessible to diverse linguistic communities (Samee et al. 2024). The core strategy is to convert complex legal language into plain language, characterized by its clarity, and user-centric design. This involves avoiding jargon, and structuring information logically to improve readability and comprehension. A central concern in this process is achieving cross-linguistic plain language equivalence. As Filipović et al. (2013) demonstrate, a simple translation of a plain language text is often insufficient because the target language may have different linguistic structures, cultural connotations, or legal traditions that calls for a different approach to simplification. Alwazna (2017, 310) proposes a two-layered strategy for legal translation, beginning with an intralingual phase to decipher the legal complexities of the Source Text within its own language and cultural context, such as interpreting Islamic legal statements. This foundational understanding is crucial for the subsequent interlingual phase, where the concepts are rendered into the target language. This final step is particularly challenging as it involves bridging the significant differences between two distinct legal systems and cultures. The objective is to achieve functional equivalence, where the simplified text in the target language has the same communicative effect as the source text, rather than just lexical equivalence (Shang and Hu 2025). This requires a deep understanding of both languages and legal systems, as well as the ability to adapt simplification strategies

to the specific linguistic and cultural context of the target audience. Cultural adaptation in legal explanations is vital for confirming that simplified information is not only understandable but also culturally appropriate and relevant. Legal concepts are often deeply rooted in cultural norms and values; thus, a direct translation or simplification may not resonate with or be easily understood by individuals from a different cultural background. For instance, legal concepts related to family law, inheritance, or property rights can vary significantly across cultures. Beyond simply providing explanations, legal chatbots are increasingly designed to facilitate interactive learning in technical legal domains. This approach uses the conversational nature of chatbots to create a dynamic learning environment where users can explore legal concepts at their own pace and receive tailored guidance. As Monteiro et al. (2022) point out, legal concept exploration allows users to ask questions, receive immediate answers, and engage in a back-and-forth conversation that mimics a consultation with a legal expert. This interactive format can significantly enhance comprehension and retention, as users are actively involved in the learning process rather than passively receiving information. Chatbots can guide users through a series of questions to narrow down their legal issue, and suggest next steps, such as consulting a human lawyer or accessing specific legal resources.

Zódi (2019) highlights that visual aids and multimedia integration further enrich the interactive learning experience. While legal texts are traditionally text-heavy, chatbots can incorporate diagrams, flowcharts, infographics, and short videos to explain detailed legal processes or relationships (Amato et al. 2023). For example, a chatbot explaining the stages of a lawsuit could present a visual flowchart, or one explaining property ownership could use diagrams to illustrate different types of deeds. Multimedia elements break down information into more digestible chunks and make abstract legal concepts more concrete and understandable, which is particularly effective for visual learners or for explaining procedural aspects of the law that are difficult to convey through text alone. Furthermore, scaffolded learning approaches are employed by chatbots to guide users through increasingly technical legal domains. As Peruginelli (2008) details, this involves starting with basic concepts and gradually introducing more advanced topics as the user demonstrates understanding. The chatbot can provide hints, offer additional resources, or rephrase explanations if the user struggles with a particular concept. This adaptive scaffolding guarantees that users are not overwhelmed by the elaboration of legal information and can build their knowledge incrementally. For instance, a chatbot might first explain the basic principles of contract formation before digging deeper into more detailed topics like breach of contract or remedies. This structured learning path helps users develop a foundational understanding before tackling more specialized areas. This is because the depth of concept exploration can provide insights into how users interact with the chatbot and whether they find the learning experience valuable. Chatbots can track whether users return for further legal information, and can indicate the long-term impact on legal literacy. They offer interactive features to optimize user engagement and improve the overall learning outcome. The goal is to create a legal assistance tool that is not only informative but also engaging and effective in empowering users with legal knowledge.

## Practical Application in English–Arabic Legal Translation

The intersection of linguistics, law, and technology presents a unique and compelling arena for the application of AI-powered chatbots, particularly in the domain of English-Arabic legal translation. This area is ripe for innovation, given the distinct legal and linguistic challenges in these two systems. This section sheds light on specific cases and scenarios. It illustrates how these technologies are not merely augmenting but actively transforming legal processes and democratizing access to crucial legal information.

### The Case of Contract Law Translation

The translation of contractual terms between English and Arabic poses considerable challenges due to fundamental differences in legal traditions and linguistic structures. English contract law, a product of common law, typically prioritizes explicit, detailed language to enumerate every term. In contrast, Arabic contracts, which are deeply influenced by Islamic jurisprudence and civil law, often employ broader, more generalized phrasing, rely on implied terms, and may even incorporate religious or cultural references (El-Farahaty 2015). This lack of direct lexical and conceptual equivalence for numerous contractual terms necessitates a profound understanding of both legal systems. As Altarabin (2018) observes, the objective is to identify functional equivalents rather than to produce literal translations, a task that requires both legal expertise and linguistic proficiency. The highly formulaic nature of contracts, with their repetitive clauses and specific formatting, makes them an ideal candidate for automation. A significant hurdle in this type of legal translation arises from the conceptual disparities between common law and Islamic/civil law traditions. Ethelb (2025) highlights the English common law concept of “consideration,” which often lacks a direct, single-word Arabic equivalent. While Arabic legal systems acknowledge the exchange of value, they do so through broader terms like “عوض” (compensation) or “مقابل” (in return for), which fail to fully capture the precise legal implications of “consideration” in common law. The real-world consequences of this are severe; a mistranslation of this term in a high-stakes international fraud case, for instance, led to the dismissal of a claim. This, in fact, reflects the critical importance of precise legal terminology.

Further complicating matters is the presence of archaic and Latin terms in English legal discourse. Words like “hereby,” “thereby,” “ad hoc,” and “de facto” are common in English contracts but have no direct one-to-one equivalents in Arabic. Translators must therefore rely on conceptual understanding and explanatory phrasing. For example, “de facto” when used to describe a “de facto company” (one that exists in reality but not by legal right) is typically rendered in Arabic through a descriptive phrase rather than a single word. Similarly, archaic terms like “notwithstanding” might be translated as “على الرغم من” (despite) or “بالرغم من” (although), while “hereunder” or “hereinafter” could become “فيما يلي” (which follows). El-Farahaty (2016) notes that the term “set forth” can have a variety of translations, such as “الواردة فيه” (mentioned in it), “المبينة”

(illustrated/mentioned), or “المنصوص عليها” (stipulated), depending on the specific legal context. These variations indicate that contextual awareness and legal expertise are paramount, far exceeding mere linguistic proficiency. Further, the influence of Islamic jurisprudence and other cultural elements introduces further challenges into Arabic legal texts. As Ethelb (2025) points out, terms related to family law, inheritance, or specific financial transactions (e.g., Islamic finance contracts) carry deep cultural and religious connotations that are absent from Western legal systems. Translating these requires not only linguistic accuracy but also a profound understanding of the underlying cultural and religious principles to achieve functional equivalence. For instance, the Arabic legal term “Qadi,” which refers to a judge in Islamic law, has no direct English equivalent. Similarly, the Islamic legal term “خُلْع” (khulc), a specific type of divorce initiated by the wife, would lose its unique legal and religious implications if simply translated as “divorce” (El-Farahaty 2016). These real-world examples unequivocally demonstrate that even seemingly minor mistranslations can lead to major legal disputes, significant financial repercussions, and costly delays. An example of this is a 2011 contract dispute involving the translation of Chinese business contracts into English. In this case, “drydocking” was translated as “tank washing,” and “except fuel used for domestic service” was translated as “except fuel used for domestic flights.” These wording differences not only delayed transactions but also cost both parties money as they tried to renegotiate terms to make them consistent across both languages. (Ungurean and Pungă 2024). These cases powerfully illustrate that while linguistic accuracy is important, legal and contextual accuracy are absolutely critical in English-Arabic contract translation.

The implementation of chatbots for translating standardized contract clauses has shown immense promise. By training these systems on extensive corpora of parallel English and Arabic legal contracts, they can learn to identify and translate common clauses with remarkable accuracy. These chatbots can be seamlessly integrated into contract drafting platforms. They can enable legal professionals to input clauses in one language and receive an instant, contextually appropriate translation. As Moneus and Sahari (2024) note, this significantly reduces the time and effort traditionally required for manual translation of routine contractual elements. For example, a chatbot can be configured to recognize specific boilerplate clauses and apply pre-approved translations to maintain consistency and compliance across numerous contracts. The performance of chatbot-assisted contract translation is typically evaluated using metrics such as BLEU (Bilingual Evaluation Understudy) scores for linguistic accuracy (Ghassemiazghandi 2024). However, far more important are assessments of legal accuracy and functional equivalence, which are conducted by human legal experts who review the translated contracts to confirm that the legal intent and effect are fully preserved. Altakhaineh and Alghathian (2025) conducted a study that found that while human translators still outperform chatbots when dealing with highly ambiguous or novel contractual terms, the chatbots achieve comparable accuracy for standardized clauses and significantly outperform humans in terms of speed and cost-efficiency. This suggests a complementary role for the technology, where chatbots handle high-volume, repetitive tasks. This can definitely free human experts to concentrate on high-value legal analysis.

## Future Directions and Research Opportunities

The integration of advanced artificial intelligence (AI) and its related technologies is poised to fundamentally reshape the landscape of legal assistance chatbots. The current generation of these systems, which primarily rely on text-based interactions, is on the cusp of a major transformation. A key area of development is the shift toward multimodal legal assistance systems, which will allow for richer, more context-aware interactions (Yue 2024). Samee et al. (2024) envision a future where chatbots can analyze a combination of inputs like speech from court proceedings, visual evidence such as diagrams and photographs, and written legal documents, all at the same time. This multimodal approach would enable a more comprehensive form of assistance. It caters to diverse professional preferences and intricate legal situations. Another promising frontier is the application of augmented reality (AR) in legal contexts. Tatwany and Ouertani (2017) suggest a scenario where legal professionals, through AR glasses, could receive real-time translation overlays of foreign legal documents or live interpretations during international discussions. This technology could visually highlight key legal terms, provide contextual information, or even project virtual legal experts to guide users. Although still in its early stages, AR holds the potential to dismantle linguistic barriers in dynamic legal settings like courtrooms or international negotiations. Research in this field will need to focus on developing resilient AR interfaces to allow for low-latency translation and to integrate legal knowledge bases into these environments. A more distant, but potentially transformative, prospect lies in the implications of quantum computing for legal reasoning. Bezbakh and Frolova (2021) theorize that quantum computers, with their unparalleled ability to process vast datasets, could revolutionize legal analytics and predictive justice. This could empower chatbots to perform highly sophisticated legal reasoning and forecast case outcomes with unprecedented accuracy. While practical applications are still years away, early research is exploring how quantum algorithms could be applied to legal data analysis.

Halimi and Alwazna (2023) highlight that while significant progress has been made in specific language pairs, like English and Arabic, the future of legal chatbots requires expanding their capabilities into truly multilingual systems. Each new language pair introduces unique linguistic and cultural challenges, especially for low-resource languages where parallel legal corpora are scarce. Researchers are exploring techniques like transfer learning and zero-shot translation to overcome these data scarcity issues (Naikoo and Ganai 2025). Furthermore, a fundamental challenge remains in translating between civil law and common law systems. Almann (2023) explains that these systems differ significantly in their conceptual frameworks and terminology. Civil law systems, which are based on codified statutes, contrast sharply with common law systems built on judicial precedent. Translating between them requires not just linguistic equivalence, but a deeper conceptual understanding, often necessitating rephrasing rather than direct translation. Future AI models must be capable of understanding and bridging these systemic differences, perhaps through legal ontologies that map concepts across

different traditions. Another layer of complexity arises with international law and treaty interpretation. Simonnæs and Kristiansen (2019) note that treaties are often drafted in multiple official languages, all of which are equally authentic. Interpreting these texts requires a deep understanding of international law and diplomatic style. Chatbots could assist by providing comparative analyses of different language versions by highlighting discrepancies and offering insights based on established legal principles. Goźdź-Roszkowski (2021) emphasizes that standardization efforts are crucial for the widespread adoption and interoperability of legal translation chatbots. The lack of standardized legal terminology across jurisdictions hinders the development of consistent AI models. Efforts to create harmonized legal glossaries and ontologies are essential for improving the quality of automated translations. Future research should explore the role of international legal bodies in promoting these standards and developing AI tools that can automatically identify and suggest standardized terminology. This would not only improve translation quality but also facilitate cross-border legal communication and collaboration.

## Ethical Considerations in Legal Explanation

The widespread use of chatbots for legal explanation and simplification, while offering significant advantages, entails a careful examination of their ethical implications. A key concern, as Asparuhov (2024) notes, is the risk of oversimplification and misrepresentation. Legal information, even when simplified, must remain accurate to prevent misleading users. Oversimplification can inadvertently omit crucial details, which may lead to uninformed decisions or inappropriate actions. Misrepresentation, whether intentional or not, can have severe legal repercussions for all parties involved. Consequently, it is essential that chatbots are designed with reliable mechanisms to ensure the accuracy and completeness of their explanations. In order to manage user expectations and prevent the unauthorized practice of law, transparency regarding the chatbot's limitations is of paramount importance. Jones (2021) asserts that chatbots should explicitly state they provide general legal information, not personalized legal advice. Users must be fully aware that the chatbot is an AI tool and not a replacement for a qualified human lawyer. To reinforce this, disclaimers should be prominently displayed and reinforced throughout the interaction, especially when dealing with sensitive legal topics. The chatbot should also be programmed to recognize when a query requires human intervention and to direct the user to appropriate legal professionals or resources (Necz 2024). Furthermore, a framework for accountability in automated legal guidance is necessary to address the question of responsibility when errors or omissions occur. While accountability in traditional legal practice rests with the human lawyer, the introduction of AI blurs these lines. Clear frameworks are needed to determine who is accountable for a chatbot's information. This involves establishing standards for AI development and deployment in legal contexts, as well as mechanisms for redress when harm occurs. These frameworks should also consider the potential for algorithmic bias. This is to ensure that the chatbot's explanations are fair and equitable across diverse

demographic groups and legal situations. Thus, the integration of these tools also extends to considerations of professional responsibility. Necz (2024) reminds us that a lawyer's professional obligation to provide competent and ethical representation is not diminished by the use of AI. Legal professionals who use chatbots must fully understand the capabilities and limitations of these tools. They must also be mindful of the ethical implications of relying on AI for tasks that traditionally demand human judgment. The introduction of chatbots into legal practice thus presents the need for a re-evaluation of existing ethical guidelines and the development of new ones to warrant that the benefits of AI are realized without compromising the core principles of justice and professional conduct.

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## Conclusion

This chapter has explored the transformative impact of chatbots on legal translation and explanation. It demonstrated their pivotal role in streamlining legal assistance and enhancing accessibility to legal information. It began by establishing the theoretical foundations of these advancements. The chapter highlighted the convergence of natural language processing, machine learning, and cross-linguistic semantics in creating sophisticated AI-powered tools. The current landscape revealed a shift from traditional translation methods to AI-driven systems, particularly in exploring the intricacies of English-Arabic legal translation. Practical applications, from contract law to, illustrated the tangible benefits of these technologies in improving efficiency and accuracy. The synthesis of key discussions across these sections highlights a dual impact: chatbots are not merely automating tasks but are fundamentally reshaping legal practice and research. They are democratizing access to legal information and enabling legal professionals to operate with greater efficiency and precision in a globalized legal landscape. The implications for legal practice are profound, shifting the focus from routine linguistic tasks to higher-value analytical work. In research, they provide unprecedented opportunities for data-driven insights into legal systems and linguistic elements. However, this transformative potential is accompanied by limitations and challenges. Current technologies, while advanced, still grapple with the subtleties of legal interpretation and the complications of cross-jurisdictional legal concepts. The risk of oversimplification, misrepresentation, and algorithmic bias necessitates continuous human oversight and rigorous validation. The scarcity of high-quality, annotated legal corpora, particularly for less-resourced languages, also poses a significant technical hurdle.

Looking ahead, the vision for AI-assisted legal translation and explanation is one of increasing sophistication and integration. Future directions point toward multi-modal systems, augmented reality applications, and potentially, the transformative power of quantum computing for complex legal reasoning. The expansion beyond English-Arabic to truly multilingual systems and the development of standardized interoperability protocols will be crucial for realizing this vision. This necessitates a concerted call to action for academic and industry stakeholders. Continued interdisciplinary collaboration and the proactive development of ethical and regulatory guidelines are essential to harness the full potential of chatbots in streamlining legal assistance.

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