



Significance Of Technology In Translation Studies

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Abstract

Translation technology uses different software tools that support and sustain converting written text from one language to another. Translation technology involves everything from translation memories and terminology management tools to machine translation (MT), virtual interpreting technology, and even voice-to-text technologies. Translation technology as a commercial activity has become a global business, and it is a natural consequence of the globalisation of trade in general. Translation technology tools can increase accuracy, productivity, and overall effectiveness. Before the development of translation technology, translation was done manually, with translators referring to paper dictionaries and using their best judgment. Translation technology has gone through many changes, and since the surge of the internet and computers, rapid changes have taken place in this field of study. As a result, technology in translation has become increasingly critical, and the process has become more efficient. The fast growth of translation technology has been a significant factor in allowing even smaller companies to market and sell their products internationally. In addition, the demand from consumers for product information and user manuals in their native language has fuelled the need for translation.

Keywords: internet, translation, computer, software, digital, technology

What is Translation Studies

Translation Studies deal with translation theory, description, and application. Translation Studies is an inter-discipline that touches on other diverse fields of knowledge, including comparative literature, cultural studies, gender studies, computer science, history, philosophy, rhetoric, semiotics and linguistics. Our multicultural and multilingual societies demand efficient, effective, and empathetic communication between languages and cultures (Chan, Routledge encyclopedia). Therefore, Translation Studies are becoming a more critical and desirable research area. Different courses in Translation Studies enable linguists, language graduates, and translators to develop a deep understanding of the field and practice as a professional translator. The 1990s can be seen as establishing a series of new associations that brought together research into the history, philosophy and practice of translation with other intellectual movements. The relations between Translation Studies and post-colonial theory represent one such alliance.

The translation is mainly a process of communication in which an idea from one language, called the source language (SL), is transferred into the language comprehensible to the intended or target audience, called the target language (TL). It allows effective communication between people worldwide, acts as a courier for transmitting knowledge, protects cultural heritage, and is crucial in developing a global economy. Due to the globalisation of the world economy and the rapid growth of Multi-National Companies, translation has become very significant (Cronin, Translation and). More and more dedicated translators are needed to engage in translation and interpreting activities in publishing houses, research organisations, medical science, tourism, entertainment, public relations, mass communication, international organisations, embassies and diplomatic services. Government Ministries like External Affairs, Agriculture, Science & Technology, and Education require junior translators, senior translators, and subject experts. Private companies such as HP, Samsung, Hyundai, and LG provide opportunities for language experts.

A person having sound knowledge of more than one foreign language is preferred as an interpreter or translator to facilitate the translation services. These services include working as interpreters in seminars, conferences and business negotiations. Translators and Interpreters for languages like English, Chinese, Japanese, French, German, Arabic, Korean, Persian, Russian, Portuguese, Spanish, and Hindi are in great demand worldwide. There are endless economic opportunities for people who can translate from one language to another, mainly English, to other local or regional languages. (Cronin, Translation in)

What is translation technology?

Translation technology uses software tools to convert written text from one language to another. Translation technology involves everything from translation memories and terminology management tools to machine translation (MT), virtual interpreting technology, and even voice-to-text technologies. As a result, translation technology tools can increase productivity, accuracy, and overall effectiveness. However, before the development of translation technology, translation was done manually, with translators referring to paper dictionaries and using their best judgment. So, the negative impact was substantial as a result of the following:

- Unusual Delay
- Loss of consistency
- Very high costs
- Lower output quality resulting from manually checking for errors

With the emergence of translation technology, there was a change. Tools such as translation memories store previous translations to inform and advance future projects and translation management systems that help automate repetitive processes and increase control in the overall translation process. (Hartley)

Consequently, translation technology tools allow us to:

- Ensure quality by checking for spelling and grammatical errors
- Increase consistency by storing previous translations that can be reused or consulted in future
- Improve working efficiency by automating translation management tasks
- Accelerate time to market by enabling the production of more content in less time

Before we go deeper into the various types of translation technologies, let us go back in time and examine how translation technology has evolved.

The history of translation technology

We can trace modern translation technology methods to the 9th-century Arabic philosopher Al Kindi, who introduced the frequency analysis method still in use today.

However, translation technology began to take the present shape in the mid-20th century, when computers became readily available and affordable.

Here is a rough overview of the history and evolution of translation technology:

- In the 1950s: IBM and Georgetown University introduced the world's first machine translation (MT) system. This approach was rule-based and lexicographical, which means that it relied on pre-programmed rules and dictionaries. Although this early attempt proved slow and unreliable, it was still ground-breaking.
- In the 1970s: The United States Department of Defence and Advanced Research Projects Agency (DARPA) developed a speech recognition technology that paved the way for voice-to-text technology.
- In the 1980s: The arrival of terminological databases and electronic dictionaries was a turning point during this decade. These tools facilitated to make of translation more accessible by providing translators with instant access to information.
- In the Mid-1980s: The precursors of modern translation management systems (TMS) from the Coventry Lanchester Polytechnic University entered the scene.
- In the late 1980s - early 1990s: IBM researchers were acquainted with statistical machine translation (SMT). These systems were word-based and translated one language into another by comparing large volumes of parallel texts in both languages. For example, they would analyse how often "das auto" (the German phrase) was translated as "the vehicle" vs "the car" vs "the automobile" and select the most frequent translation for the text available.

- In the early 1990s: Computer-assisted (or aided) translation (CAT) tools appeared during this decade - a milestone that transformed translation technology forever. It enabled a new generation of translators to work more efficiently and effectively.
- In the late 1990s: IBM's statistical translation engine, phrase-based instead of word-based, was introduced. It became the commercial standard for the coming years until Google entered the race in 2006 with its neural machine translation (NMT) technology.
- In the early 2000s: The first cloud-based TMS solutions appeared in the market, enabling translation teams to work flexibly and collaborate with other company members regardless of location.
- In 2006: Google launched Google Translate, which took the world by storm. First, it translated the input text into English before translating it into the target language. Then, it used predictive algorithms to guess which words should come next based on the terms and phrases it had "learned" before. Unfortunately, these guesses often resulted in poor grammatical accuracy.
- In 2016: Google launched its neural machine translation (NMT) to increase fluency and accuracy in Google Translate, outperforming phrase-based CAT tools and becoming the new commercial standard.

The main types of translation technology

It is no longer a question of whether or not to use translation technology, but the question is: Which one? Some of the most popular translation technologies involve:

I. Computer-assisted translation (CAT) tools

CAT tools are various software applications that assist translators in their daily work. CAT tools use databases of earlier translations, usually from a particular source language and target language, frequency information, segmentation data, and various other resources to aid the translation process. A CAT tool interface displays two columns or panels: one panel displays the source text, and the other shows the target text. CAT tools have transformed translation technology, making it easier for us to optimise the translation process and efficiently handle large volumes of content, saving money and time. CAT tools are also customisable, making them invaluable for any business which seeks to rationalise its translation processes based on the specific needs of its target audience. (Bowker, Computer-aided)

As such, CAT tools have several functions, such as:

- Translation memories, which allows potential translators to reuse previous translations
- Term bases or glossaries, which are used to search for project-specific or brand-specific terminology

- Reports specifying how much of the translation has been completed
- Auto-completion of sections if they are an exact match to previously translated content
- Quality assurance to search for errors in the translation, such as untranslated sections, missing numbers, or illustrations where the same word has two different translations

II. Machine Translation (MT)

Keeping in view the increasing demand for translation and the complexity involved in the process, the scientists and linguists worked together to automate translation in specially designed software programmes with an in-built mechanism for substituting the terms in the source language with a target language without human intervention (Kenny). Machine translation (MT) differs from computer-aided tools (CAT) tools in that it does not depend on human input but produces translations completely on its own. (Hartley)

Machine translation engines can fall in one of the three below mentioned categories which are capable of understanding and translating entire sentences and even paragraphs instead of translating them word by word:

- Rule-based machine translation (RBMT): This engine translates words based on a set of rules that the user can adjust.
- Statistical machine translation (SMT): The system translates words and sentences based on a framework (an extensive framework of parallel texts) that the engine has been already trained in.
- Neural machine translation (NMT): This engine is AI-powered and capable of imitating how a human brain works when processing language.

Raw vs post-edited machine translation

The quality of machine translation continuously varies depending on various factors, such as:

- The language pair at hand: Languages of different syntaxes, such as English and Chinese, may be more challenging to translate accurately than languages with similar syntaxes, such as Spanish and French.

Considering the above condition, we can choose between raw machine translation (i.e., completely unedited) and human translators to refine the output as per the requirements. The latter is called machine translation post-editing (MPTE), which can be light or full. Some texts will be more suitable for a lower level of editing. For example, any website's frequently asked questions (FAQ) page may require light editing; however, a press release that will directly impact the company's reputation should go through a complete post-editing process.

Human translators should always handle sensitive content, such as financial statements by the same logic.

As a rule of thumb:

- Apply raw machine translation for quickly perishable and low-impact content. For example, user-generated content like product reviews and customer inquiries generally expect to be low quality.
- Practice light or full MTPE when your company may suffer due to inaccuracies. Here is the case of product titles and descriptions.
- Use human translators whenever quality matters more, and there are no time and monetary restraints. For example, legal, financial, or technical documents are paramount for accuracy and consistency.

III. **Translation management systems (TMS)**

Translation management systems (TMS) are various software platforms designed to translate and manage a project at scale. TMS are flexible enough to allow users to create their roadmaps and customise the software according to the needs of specific projects. It streamlines the translation process from the beginning to the end, making a roadmap from the initial request to project completion and allowing operators to plan, assign, and manage translation in a systematised manner. (Chan, A dictionary of)

TMS solutions always vary according to the needs of users. Nevertheless, in general, they all include a basic set of features:

- Support multiple languages and file formats
- A dashboard that displays the status of a project and provides access to all essential tools
- The choice to automatically push (import) content into the TMS for translation and pull (export) it back after project completion
- The capacity to streamline processes by adding users or importing translation requests from other systems for easier collaboration with third-party sponsors
- Role management maintains a separation between those who manage projects and those who translate them
- Features of computer-aided tools (CAT) such as glossaries, term bases, and translation memories
- Machine translation competencies that help speed up the translation process

How to choose a proper translation technology vendor

Because there is a wide variety of translation software available, we can determine what solutions work best for us from the potential service providers. As such, creating

a translation technology request for proposal (RFP) helps to go through the features of a specific translation technology provider. Doing so will allow you to select from the plethora of providers and point out which one meets all of your requirements. (Gonzales)

Before creating the RFP, some crucial points to consider when you are evaluating the translation technology providers include:

- Look for potential providers who offer you concrete examples of work with other clients
- Try to find the providers that can help you choose from the best features for your business
- Translation technology providers should offer advice on how the tools will affect your workflow and how to improve the process
- They should offer training sessions and troubleshooting assistance whenever needed
- Always choose a provider that offers you the most advanced AI-powered machine translation
- Finally, pick up a tool that can be used anywhere on any operating system (Linux, Mac, Windows).

Conclusion

Translation technologies have increased both quality and productivity in translation, supporting communication, and demonstrated the growing need for technological solutions to the age-old problem of the language barrier (Nida). There are diverse and refined translation tools available today. Translation technology will grow stronger as artificial intelligence continues to progress. However, translation can never be wholly automated because human translators and machine translation tools have advantages that complement each other (humans are great at creativity, and AI is ideal for automating repetitive tasks). While Machine-translation post-editing will ensure that AI-generated translations are accurate and fluent, human translators will make the final creative changes to accommodate specific audiences (Kenny). Consequently, most experts agree that the future of translation will combine human intelligence and AI-powered machine translation to produce better results (Chan, The future of). AI tools and Human translators will work together as a single translation system, each member playing a distinctive role.

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