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*Technology in the Translation Workflow:  
A Survey on Professional Translators'  
Use of and Opinion about  
Computer-Assisted and Machine Translation*

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## ***Abstract***

*In the last few decades, the introduction of technology into the translation industry has revolutionised the traditional translation workflow. As a result of the invention and the implementation of specific translation technologies, a new and different approach has been adopted by the professional translators, who have integrated new tools in their workflow. This allowed translators to speed up the translation process and improve the quality of the translated text, which shows the inherent value associated with such applications. For these reasons, most translators and translation service providers choose to use them on a daily basis and the benefits they produce are now considered fundamental. In this dissertation, data concerning the use of computer-assisted and machine-translation technology by professional translators is investigated through a survey, with special reference to the performance of such tools, translator's opinion about them and their preferences for one or the other system. In addition, the data are analysed with particular focus on legal translation, so as to highlight any specific attitudes and needs expressed by legal translators.*

## ***Introduction***

Over the years, the translation process has undergone a series of significant changes that, each time, have brought new habits and strategies to the professional practice (Regmi, Naidoo & Pilkington, 2010, p. 17). Transformations have not only been of a linguistic nature but also ergonomic, supporting a new representation of the translation industry as well from a physical and cognitive point of view.

In this process, the professional translator is responsible for the production of texts that must meet the general required standards from a linguistic point of view but also the expectations of the potential client, even in technological terms. Professional performance is not exclusively related to the pure translation of documents, but it is influenced, both directly and indirectly, by a number of factors that are specific to or external to the task of translation. These include a series of physical and organisational features that impose specific choices or strategies for the translation of some texts and impose limits or obligations on his or her profession, thus indirectly conditioning the same translation process (Ehrensberger-Dow, 2019, p. 37-38).

In short, a translation is the combination of internal criteria, i.e., the linguistic and specialized knowledge of human translators, and external factors, i.e., those elements that influence and determine the translator's choices made and working method followed. Specifically, the tools used for the translation, the working environment, or the relationships and communication with the colleagues have the power to determine the way in which the translation process is carried out and consequently the production of the final translation.

The technologies that are nowadays considered fundamental for the translation of any textual genre also have an impact on the performance of the human translator, affecting or altering his or her work and the final output. For this reason, translation can no longer be considered as a process involving exclusively human knowledge, but it is also characterized by the interaction between humans and technology.

Nowadays, the use of translation technology is sometimes mandatory or is considered necessary by professional translators for their projects. Although initially the use of technology was not viewed positively by some professional translators, the improvements

and innovations in the industry are very evident and, as Pym suggests (2011, p. 5), “the technology is here to stay”. Therefore, the new relationship between human and computer became increasingly strong and powerful until it became a fundamental characteristic of the translation process.

In some cases, it is difficult to mark a boundary between the human work and the actual process performed by computers, considering very often the translation as an action that occurs thanks to an approach of cooperation between the two subjects (Berdica, 2016, p. 65). Technology, both at the general context level and that exclusively dedicated to a specific specialized context, has reached very high standards over time, facilitating the performance of a series of tasks and operations that in the past were considered unthinkable but which today represent the common and ordinary standard in the translation sector.

The two major revolutions in the translation industry are linked first to CAT tools and then to Machine Translation (MT). With the advent of these specific technologies, a major breakthrough was achieved, namely a transition to a fully or partially automatized translation. Hence, for the first time, it was possible for the machine to suggest or produce translations of various texts independently, sometimes even without requiring a complete human intervention.

With CAT tools the translation is always performed by the human figure and the machine plays the role of assistance, while MT deals autonomously with the translation and in this case the translator does not directly translate the text but checks and edits it. In this way, the two systems assign, require, and determine a different task to the professional translator, who performs two completely different roles in the translation process, depending on the tool used (Berdica, 2016, p. 69). For this reason, the use of a given, and specific translation technology is influenced by the required necessities that emerge from the translation process or the needs and demands also expressed by the client.

The study proposed in this dissertation analyses the use of and opinions about CAT tools and MT by professional translators, with reference to both specialised translation in general translation and legal translation. A survey was conducted addressing professional translators and including five sections, which investigate, respectively, the profile and background of respondents (1), their habits and opinion when using CAT tools (2) and MT (3) for specialised translation assignments and for legal translation (4 and 5).



The dissertation includes four chapters. Chapter 1 presents a general description regarding the advent of technology in the translation industry and the significant innovations and transformations it has brought about. In this chapter, the position of the human translator is also addressed, explaining and analysing the role that it is played today with respect to the implementation of the new technologies. Chapter 2 explores the field of legal translation and the application of CAT tools and MT in that field. After providing a general introduction to legal language and its main features, the chapter analyses the use of translation technology has been in the legal context by considering also previous studies in this field. Chapter 3 instead presents the main objectives of this study and describes the development, creation, and dissemination of the survey. Finally, Chapter 4 analyses and data in the attempt to picture the relationship and main evaluations of the respondents with respect to the use of technology in specialised translation in general, and the legal field.

# **1. Translation and technology: how the digital evolution has influenced the translation industry**

## **1.1. The advent of technology in the translation workflow: the interaction between translators and digital tools**

In recent decades, technology has influenced many aspects of human life, in both the private and working spheres, and is part of daily lives. Our lifestyle has been completely overturned and the changes brought about by technological advances have become apparent in a short period of time. From the technological developments in public transport and communication to the new devices introduced in our homes, a new vision of society, increasingly interconnected, has spread along with a new way of behaving and performing the most common daily activities (Pym, 2011, p. 1). Significant changes are also visible at the workplace. The introduction of new technologies has also revolutionized the way humans work, think, and implement certain decisions. In completing their tasks, which were formerly performed mostly manually, they have been supported by new technological discoveries, such as computers and, above all, the Internet, which have speeded up their work or replaced the human altogether.

One of the work environments that has undergone this transformation due to technology is the translation industry. In the last 50 years, translation has witnessed a great evolution, which has affected not only the translation workflow but also the way in which translators work, i.e., the translation process itself. New devices have become part of translators' daily routine, gradually becoming indispensable and fundamental features (Berdica, 2016, p. 64).

Nowadays, the most common and indispensable tools for professional translators are computers and, especially, translation-oriented software tools. Following the advent of computers and their subsequent popularization in the 1980s, the role of translators in the translation workflow has completely changed (Berdica, 2016, p. 65). The computer has become completely integrated in the process, assisting translators in the analysis and translation of documents. Computers play a key role in every phase of the translation

workflow as it allows the user to write, revise, and deliver the final text. Therefore, they are not just tools that have replaced the use of pens and paper (Odacıoğlu & Kokturk, 2015, p. 1086) but are integrated in every step of the workflow.

These tools are constantly evolving and changing, with upgrades and new versions being release on a regular basis. Hence, new functions and adds-on can be implemented to further speed up the translation process. Therefore, translators must also have the skills to adapt to these and technical changes. This continuous evolution is also the reason why many training courses and university translation programmes include a focus on translation technologies (Teh, NG, & Foo, 2016, p.4). Exposing novice translators to the basic functions and features of computer-based translation tools can help them be more flexible to future changes.

Alongside computers, the shift from hardcopy to electronic versions of many translation sources represented a turning point in the industry. A crucial example can be observed with the most famous and known resources for translation: dictionaries and glossaries. They have always been considered the fundamental tools that support translation work for all types of documents and texts. With the emergence of information technology, dictionaries were also produced in the electronic version, which characterized a moment of innovation for this industry (Berdica, 2016, p. 66).

With the introduction of the electronic versions of dictionaries, translators began to abandon the use of hard copies in favour of electronic ones, which revolutionized the working method and consequently led to improvements and simplification as compared to the past use (Pym, 2011, p. 3). Being large paper volumes, print dictionaries were not easily transportable and quickly accessible. A digital dictionary, instead, can be saved in a computer or other electronic device and reduces the searching time through the automatic retrieval of the term types by the user (O'Brien, 2012, p. 106).

The turning point in IT was the rise of the Internet, which it has also influenced translation. For example, dictionaries also started to be online and are now freely available to everyone, even in their app form or just by downloading them from the internet at any time and from any device (Berdica, 2016, p. 66). Many websites give users the opportunity to consult the meaning of terms and expressions for free, even in most recent updated versions, such as the «Cambridge Dictionary»<sup>1</sup> for English or the

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<sup>1</sup> Available at <https://dictionary.cambridge.org>

«Treccani»<sup>2</sup> dictionary for Italian. In addition, some websites provide specialised dictionaries, which may concern the field of medicine (e.g., «Mediciitalia»<sup>3</sup>), economics (e.g., «The economist»<sup>4</sup>), astronomy, (e.g., «Oxford Dictionary of Astronomy»<sup>5</sup>), to mention but a few.

In addition, the access to the Internet has made information available and more easily retrievable. Resources on the Internet can be accessed at any time and within seconds, with a simple *click*. Thus, similar to dictionaries, hard books and print newspapers were no longer necessary as various information could be easily found on the Web (O'Brien 2012, p. 105). Searching for information on the Internet has thereby speeded up translators' research activities, also thanks to online search engines which can search virtually any website and immediately display a word or a phrase. By searching for specific entries, translators can ascertain the actual use of specific phrases and collocations in a given language, along with syntactic structures and other linguistic features (Berdica, 2016, p. 74).

In the present day, professional translation is unquestionably a type of human-computer interaction (HCI). As pointed out by O'Brien (2012, p. 104), HCI concerns the interaction and relation between humans, computers, and the different tasks they complete through these tools. Human behaviour, either physical or cognitive, is influenced by IT equipment, with which individuals interact in different ways. While the term "ergonomics" traditionally referred to the purpose and function for which computers and software can be used, it now also includes the user friendliness with which these products are actually operated. Hence, the focus is no longer just on the knowledge and the expertise needed to use such tools, but on how these have been incorporated into the workplace, namely, how technology and humans interact.

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<sup>2</sup> Available at <https://www.treccani.it>

<sup>3</sup> *Medicitalia* (<https://www.medicitalia.it>) is a project of *Medicitalia srl* - a company of *CompuGroup Medical Italia s.p.a.* It is a free web portal for medical consultations and for the dissemination of authoritative medical and scientific information. It also provides an Italian medicine dictionary, available at <https://www.medicitalia.it/dizionario-medico/>.

<sup>4</sup> *The Economist* (<https://www.economist.com>) is an English weekly political and economic newspaper. It also provides an English economist dictionary, available at <https://www.economist.com/economics-a-to-z>.

<sup>5</sup> *Oxford Reference* (<https://www.oxfordreference.com/>), across *Oxford University Press*, offers Dictionaries and Encyclopedias in different subject areas. It published «A dictionary of Astronomy», 2<sup>nd</sup> edition in 2012, available at <https://www.oxfordreference.com/view/10.1093/acref/9780199609055.001.0001/acref-9780199609055>.

Moreover, translation may be identified not as just a kind of HCI, but as a dependency connection with technological tools. Indeed, the translation workflow involves all the major computer equipment that characterizes the translation industry, consequently resulting in a highly technological process (O'Brien, 2012, p. 117). Translators now do not seem to be the main agent in this process and their ability to accomplish a translation successfully is based on their use of technology, which affects all the stages of the translation process. On the other hand, the quality and the performance of IT tools can affect the workflow. For example, old technologies or slow systems or freezing can negatively impact the translation process, thus turning into a limitation rather than source helpful resource.

Still, both translators and their clients have benefited from technological advances. The main advantages deriving from the introduction of technology which can be observed in the application of each tool in translation process are three in particular: speed, quality, and costs (O'Brien, 2012, p. 107). Since its implementation in the translation workflow, technology has completely speeded up the whole process (Ehrensberger-Dow, 2019, p. 39). Technology is not only used for translating a text, but also for requesting, revising, and delivering the translation files. This means that the time needed to accomplish the translation is reduced and the delivery time is also decreased for the customers. Also, translators can easily access glossaries and dictionaries and other resources that are now embedded in the system and are displayed during the translation, thus replacing any manual search.

In addition, new software has offered translators an additional tool to check consistency, coherence, and for editing purposes. Translation memories, for instance, can store translated segments, which are then retrieved when similar source segments are found and proposed to the translators for possible reuse. Naturally, this also improves the quality of the translation. In addition, the QA (Quality Assurance) check, introduced in recent software, makes it possible to carry out a detailed check of some pre-defined requirements in the translation by analysing different linguistic elements and submitting to the translator any errors found or changes that could be made. Therefore, in addition to reduce the time needed for checking, quality is also improving (Gil & Pym, 2006, p. 10).

In addition, the application of new technologies in the translation domain has brought about a progressive reduction of costs and fees to the benefit of end users, who pay a

lower price for the service as compared to the past (O'Brien, 2012, p. 107). The work of translators when existing matches are found in TMs has been decreased and their work has been replaced by the machine. This revisiting of prices in this field is then related to the use of machines instead of humans.

While this technology has produced many benefits in this field, some disadvantages and challenges have also arisen. These are not limited to the physical adaptation to the technology, but also concern the role of translators themselves. Indeed, the position of the professional translator has come under question. Numerous are the concerns that have been brought up with respect to this figure and, especially, to the influence that technology has had on them.

The first aspect that can be analysed is dehumanization, diminishing the human intervention and trying to replace them with machine. The main feeling of professional translators with respect to the introduction of technology is that their physical presence is not particularly necessary and essential to conclude the translation process, since electronic devices are explicitly required for their work, becoming a main resource for translation. (O'Brien, 2012, p. 110). Hence, this dehumanization effect means that translators play a marginal role and are being replaced by machines. Their tasks are often to support the machine by checking, supervising, and modifying the solutions that are proposed, making sure to produce a complete target text. Therefore, this has led to an increasing feeling of negativity toward the use of IT tools.

Another aspect to consider is creativity, which has been limited as a consequence of this innovation. With the introduction of the new tools, translations have been stored in specific memories which are then used to translate similar texts. In this way, the problem of repetition was solved by speeding up the translation process and achieving textual consistency, to the detriment of creativity (O'Brien, 2012, p. 112; O'Brien & Ehrensberger-Dow, 2015, p. 101). Therefore, even though the rise of technology has speeded up and simplified the translation process, it has also made it less creative and more schematic, thus decreasing job satisfaction.

Finally, an important point to consider concerns the technical problems that have occurred throughout the years. The design and the functions of computers and software that are used play an important role in the HCI as they are the main working tools of translators, and their operation has an impact on the translation workflow and the quality of the

translation. Translators interact and utilize these tools by adapting them to their jobs; therefore, their function will determine their work (Ehrensberger-Dow, 2019: p. 41). Errors and technical anomalies can slow down or complicate the translation of documents but, above all, they appear as a limit to human abilities (O'Brien, 2012: p. 108). The presence of technical problems can prevent the translator from carrying out the translation process and produced errors in the final translation.

Even though technology has caused both positive and negative consequences in the work environment, the benefits and improvements provided are so significant that it is challenging to imagine translation without the support of technology.

## **1.2. The application of CAT tools in the translation process**

The advent of technology in the language industry started with the development and the implementation of CAT tools, which have improved the quality standards in translation, as well as translators' productivity and activity (Ehrensberger-Dow, 2019, p. 44). The invention of this new system has characterized a new era in the translation industry in which CAT tools play a crucial role.

The main purpose behind CAT tools is to help professional translators in the translation of texts by assisting them in the production of the final output (Bruns, 2008, p. 82). These tools provide the translator with suggestions from previously translated segments of texts stored in their memories (TMs) whenever a (fuzzy) match is found between the segments stored in the TM and those of the source text (Berdica, 2016, p. 68). Hence, during the translation of a text, the action of the translator is dependent on or at least influenced by the past choices recorded in a TM.

CAT tools a subsidiary role in the translation process as the translation of the source texts is still completely performed by the human translator while this tool provides them with some suggestions to be used. Therefore, the CAT tools were managed and applied by translators in the translation process in order to help them and facilitate the performance of their work (Han, 2020, p. 59).

### *1.2.1. Brief historical overview on CAT tools*

The development of computer-assisted translation systems originated in the 1990s as a response to new and special requirements in the industry. The fundamental principles of reusing verified translations and improving the consistency of the target text guided the programming of this new tool. Therefore, the development of such software always followed the same main purpose on which they are still based today: the re-use of past translations as suggestions (Garcia, 2014, p. 69-70).

However, the development of CAT tools is directly related to the subsequent development of another translation tool, namely machine translation. The 1966 report of the United States Automated Language Processing Advisory Committee (ALPAC) examined the future prospects for machine translation which indicated no need for further investment in MT research, as would later be discussed, but recommended the development and support of other types of tool (Hutchins, 1995, p. 436). This subsequent stop for the development of automatic translation system was compensated by the report's support toward the "funding for Computational Linguistics, [...] and in particular for machine-assisted human translation" (Garcia, 2014, p. 70).

The earliest prototype systems to which this type of technology is recognized are TSS (Translation Support System), produced by Alpnat Inc. in Utah, in the mid-1980s. This new translation system first realized the concept of retrieving previously translated sentences that exactly matched the part to be translated, and so it was the first tool which performed the action of assisting the translator during the translation process. However, its commercialization was not successful because some conditions had yet to be totally developed and adapted to the translation process, as it would happen in the next decades (Reinke 2013, p. 29).

The programming of post-ALPAC CAT systems was not completely successful until the 1990s, when the linguistic-level technology framework underwent some radical transformations. The development and commercialization of CAT tools have been completed, determining the introduction of these new products and their main functions in the market. For example, although Trados has been in Germany by Jochen Hummel and Iko Knyphause in the previous decade, the first version of the software was released in the 1990 along with its MultiTerm terminology database. Its release achieved great



success, becoming one of the new tools preferred by professionals in the industry (Garcia, 2014, p. 70).

Some features such as translation memories, terminology searching, quality assurance, and the alignment were already available to its users. Hence, professional translators interfaced for the first time with the practical results of technological advancement, using new methods for the production of the final translation and for subsequent research and control, also from a terminological point of view (Garcia, 2014, p. 70).

The development of CAT tools occurred rather quickly. The various events that led to their commercialization during the 1990s occurred in a limited period of time.

Since 2000. CAT tools have experienced further development and improvement of the services offered, that were even more modern and sophisticated. Indeed, some attributes of that tool have been updated and modified in order to include a number of features related to terminology, syntax, and peculiar features of the structure of these systems by collaborating to create new programs that are increasingly technological. Returning to the example of Trados, it was acquired in 2005 by SDL international, then releasing to the market the new version of SDL Trados Studio in 2009, which included the use of different features in just one application. Another example is Google, which released its first package dedicated to translation in 2009, namely Translation Toolkit, which was the first tool directed at non-professionals in the field. Until that time, the developments in the area of translation technology had been planned mainly for professional translators. In this case, translation technology had reached the general audience, by constructing and constituting a service that could be used by everyone according to their own needs (Garcia, 2014, p. 79).

Today, CAT tools appear as sophisticated and advanced tools, showing clear improvements and differences with respect to the functions provided in the past. The moment that marked a further significant evolution in this sector was the popularization of the Internet, which became easily accessible and usable by everyone, by both service producers and the general public. Therefore, the modern situation of CAT tools is no longer focused on improving or programming new functions but on implementing the Internet in this software, developing new working approaches from which it can benefit. With the introduction of the Internet in translation technology, the main aim to accomplish is to develop particular features, which also reflect the main aspects on which

the network is based: interaction and collaboration between different users. The new versions of the CAT tools offer the possibility to work in cloud, that is, in collaboration between the different editors in the same project (Garcia, 2014, p. 79).

The new and current generation of CAT tools encompasses all the technological developments that have taken place in recent decades. New discoveries and inventions have gradually been incorporated into these translation systems, generating useful and effective resources for the production of increasingly better-quality output.

### *1.2.2. The main features and limitations of CAT tools*

As mentioned above, CAT tools have given rise to a major change in the translation industry. This software has introduced a different perspective and approach to translation in which the human translator is assisted by this modern and revolutionary tool. The innovations generated are highly dependent on the functions and structure on which it is based, which have resulted in new advantages but also in some limitations regarding the translation process.

One of the innovative and symbolic aspects with respect to the internal organisation of the work structure are the segments, to which the application of several translation functions is based. In a project created in this system, the source text is segmented mostly by adopting a sentence-based approach, and so dividing the uploaded text into other smaller parts which match the sentence division of that given text. Segmentation is normally performed automatically, usually by considering punctuation marks (e.g., full stop, comma, semicolon) and the text layout (e.g., bullet point, footnotes, headlines.). The segmented is then displayed so that the translator can type the target text in the empty segments corresponding to those of the source text, thus allowing the user to have the original and the final text displayed side by side (Bruns, 2008, p. 58-59).

Looking at the segmentation carried out by CAT systems, the concept of assisting and helping human translators in their work is evident. The subdivision of the text into smaller and restricted sections determines the source text to be viewed and analysed more carefully and specifically, focusing on each single part individually. The software is responsible for capturing in the various segments the presence of translation proposals

stored in the memories or of terms present in the glossaries saved or uploaded by the translator, proposing any matches as a translation suggestion. Structuring the translation project according to this perspective has resulted in the achievement of several improvements, some of which were already introduced earlier with technological development (Han, 2020, p. 60).

Besides supporting translators linguistically, CAT tools also increase their production and speed up the translation workflow, especially with texts including repeated segments, as the translator does not have to translate the same segments only once. In addition to the suggestions displayed by the tool, some systems options have reduced the time required for the translation process to be completed. For example, the possibility of selecting the auto-propagation feature has considerably speeded up the process itself as the confirmed translation of a segment is copied and applied in all other full matches. In this way, in addition to increased speed, the risk of error is reduced (Nwanjoku & Muhammad Zayyanu, 2021, p. 34).

The application of CAT tools also increases consistency and, ultimately, the quality of the target texts. This was accomplished through the introduction of termbases (TBs), i.e., terminology databases and electronic bilingual or multilingual, glossaries. As explained by Jakić and Andjelkovic (2016, p. 3), a termbase is also known as an electronically terminology database, which contains “structured concept-oriented terminological data”. In other words, it is formed by a large number of terms or expressions which are organized in entries that, besides the source term or expression and its target equivalent, may also contain further descriptive information which can be helpful for the translators, e.g., the domain or contexts of use of that term and possible linguistic terminology variants. This prevents or at least limits the use of inappropriate, ambiguous, and incoherent terminology, which would cause a series of translation issues, including an incorrect interpretation of the meaning, difficulty in reading, or misunderstanding. TBs ensure instead that the same concept is referred to always by using the same term, which makes the text technically and stylistically consistent and ensures greater productivity (Odacioğlu & Kokturk, 2015, p. 1093).

An additional central argument about the role of CAT tools in the translation workflow is the achievement of a greater quality of the output as compared to the past. In addition to attain it through the implementation of TMs and TBs, the Quality Assurance tool (QA)

has contributed to this determine improvement. QA is a specific function of CAT tools that performs a specific linguistic check of the translation to verify that it does not contain any mistakes or inaccuracies. The potential errors are detected by comparing the segments of the source and the target texts and checking the linguistic and syntactic characteristics of the target text as well as its structure. Besides spelling mistakes, the QA tool highlights errors such as double spaces, incorrect punctuation, and irrelevant tags, thus improving the overall quality and consistency of the translation (Çetiner, 2021, p. 339; Petrova, 2019, p. 89).

From a technical perspective, CAT tools support nearly every digital format, e.g., Microsoft Word, PowerPoint, Excel, and HTML, thus replacing additional support, e.g., file converters, tools once needed in the first phases of the translation process. Moreover, when the translation is finished, the translator can export the final file in the desired format, which will reproduce the ST layout. Therefore, realignment or adjustments of the text are not needed (Nwanjoku & Muhammad Zayyanu, 2021, p. 36).

Still, some aspects have soon demonstrated to be a disadvantage, affecting the practical sphere of translation and the relationship that translators have with these tools. Many of the disadvantages experienced concern with the relationship with technology, as a general feeling of frustration among translators emerged in recent surveys with reference to the performance and the design of CAT tools, as O'Brien, Ehrensberger-Dow, Connolly and Hasley (2017) reported in their survey on the irritating aspects regarding CAT tools. Their results shows that users negatively consider some specific features of CAT tools, referring in this case especially to the structure of the user interface (53 %). Indeed, the interface with which these programs are presented is not always perceived in a positive way, and, since the translator's work is done entirely in the software, incorrect organisation or structure may be a further problem. Its complexity makes it difficult to navigate through this software and does not make it user-friendly. Often, these tools are not very intuitive, requiring translators to take long time to find or use the required function. A teaching programme concerning their functioning could solve this problem and facilitate their understanding while working (Teh, NG & Foo, 2016, p. 10). Indeed, "a lack of an intuitive navigation system, lack of user friendliness, and a need for too many mouse *clicks* to perform" are the main aspects that determined that participants of the reported survey indicated a general assessment of the interface as irritating (O'Brien,

Ehrensberger-Dow, Connolly & Hasley, 2017, p. 160).

Also, technical problems or malfunctioning can occur. Very often, the users who use CAT tools struggle with bug errors, freezing, and crashing which are not due to any misuse on the part of the user, who receives error messages that are sometimes incomprehensible or cannot be easily traced back to the source of the problem, thus slowing down the translation process or stopping it from proceeding as normal (O'Brien, Ehrensberger-Dow, Connolly, & Hasler, 2017, p. 156). This precise situation has again been reported in some investigation towards their users, as the already mentioned survey analysed (O'Brien, Ehrensberger-Dow, Connolly, & Hasler, 2017, p. 157). 25 % of comments pointed out that the technical performance of CAT tools is not always efficient, as they have to deal with and solve some technical difficulties, which may relate to crashing or freezing of the software, conditions in which the tool does not react to commands, slowness, or difficulty in access.

Another irritating aspect about the adoption of CAT tools concerns wrong segmentation, which can make the text incomprehensible (O'Brien, Ehrensberger-Dow, Connolly, & Hasler, 2017, p. 147). Generally, the problem of an inaccurate segmentation is due to an incorrect recognition of the source text by the tool. It should always be remembered that these devices are artificial intelligence and therefore they do not possess the human attributes of the comprehension and the understanding of the message and meaning expressed.

Translators often complain that another issue is the absence of certain functions that could improve the overall translation quality. The needs of translators are different and often their requirements emerge at the moment of translation. A missing feature in the management of the project to be translated is therefore presented at the same time as they use the programme realizing that a certain feature not yet allowed, could potentially enhance or speed up the translation. For these reasons, the developers of these tools must work closely with translators in the design and setting of these tools: the main users are the ones who determine the real and actual development of the CAT tools themselves, suggesting the options to be implemented (O'Brien, 2012, p. 118).

As reported by O'Brien, Ehrensberger-Dow, Connolly and Hasler (2017, p.160), by analysing the comments obtained by professional translators for their research, the

majority of translators claim that among the missing features is the need to have an improvement of the already existing functionalities. Instead of suggesting new functions that are not yet available in these tools, they emphasised the need for better development and for a better elaboration of the main features that they are currently using. A new construction and presentation of the options they use could also include new possible operations concerning the use of CAT tools that could potentially change the way translators work. Indeed, some professional translators of the survey (39 %) complaint that the system provides functions that in some cases do not perform the action in the best way for which they are programmed or that may generate subsequent technical errors. Therefore, the users of this software demand their development by introducing some actions that were not previously allowed or completely developed, which may concern either terminology, QA, formatting, or text segmentation (O'Brien, Ehrensberger-Dow, Connolly & Hasler, 2017, p.158).

Therefore, the use of CAT systems marked the beginning of a phase for the translation industry, mostly technological. Its introduction resulted in the professional translator being able to interface with new advantages to be fully utilised as well as minor but possible limitations to translation performance. However, this new chapter for the translation industry will be further innovative with the introduction of MT in the market, which will be discussed in the next section.

### **1.3. The introduction and expansion of MT in the translation industry**

Nowadays, MT is considered one of the basic tools of translation. The introduction of MT has marked a major innovation in this field and its gradual implementation in the translation workflow has initiated a series of changes, both positive and negative, which have made it more and more indispensable to both translation service providers and professional translators. As evidenced by the findings of the 2021 European Language Industry Survey<sup>6</sup>, MT has remained one the most prominent technology in the industry.

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<sup>6</sup> The European Language Industry Survey (ELIS) is a European initiative whose purpose is to analyze the trends, the possible opportunities for the future, and the challenges in the language sector. Its research considers translation agencies, freelance translators, language departments of European institutions, technology providers, but also on the area of education. The results of the 2021 ELIS are available at [https://ec.europa.eu/info/sites/default/files/about\\_the\\_european\\_commission/service\\_standards\\_and\\_principles/documents/elis\\_2021\\_european\\_language\\_industry\\_survey.pdf](https://ec.europa.eu/info/sites/default/files/about_the_european_commission/service_standards_and_principles/documents/elis_2021_european_language_industry_survey.pdf).

as it is declared by over than 50% of the 907 respondents. In addition, its current importance can be emphasized not only by its popular use but also by the increasing of university training courses dedicated to its use: almost 60% of participants indicated to have attended classes focused on the use of such technology during the university studies (Calude, 2003, p. 67; Scansani, Bernardini, Ferraresi, & Bentivogli, 2019. p. 73).

MT is a system for the automatic production of translations that do not immediately require the assistance and intervention of humans and so it refers to a software that automatically performs the translation of a source text into a target language. However, the output suggested by the machine is usually revised in the post-editing phase by professional translators. Currently, due to the emergence and spread of the Internet, this translation tool can be easily available to anyone at any time, as many MT engines are accessible online, e.g., Google Translate, Microsoft Translate, and DeepL, which can be used by visiting their respective websites (Hutchins, 1995, p. 435; Teh, NG, & Foo, 2016, p. 1).

### *1.3.1. MT: a brief historical overview*

Although MT has undergone a significant technological improvement and evolution, its birth is relatively recent. As explain by Calude (2003, p. 68), the origin of the basic idea behind the development of the future automatic translation system occurred in the 1930s, when patents for this new invention were granted to the French-Armenian George Artsrouni and his Russian collaborator Petr Smirnov-Troyanskii. Their original proposal, demonstrated only a few years later, was based on a paper tape storage device that was constructed on the primary purpose of finding the equivalent of a given word in another indicated language. This creation consisted not only in the invention of a type of dictionary but in a system of codifying linguistic categories and characteristics assigned to words. In addition, Artsrouni and Troyanskii's proposal also included a specific organisation of this automatic translation divided into stages that made it possible to produce both bilingual and multilingual translations, setting the basis from which subsequent development of this technology could begin (Hutchins ,1995, p.433).

Only after 16 years, the first impact of this idea just mentioned experienced its first global impact and recognition. Thanks to the subsequent studies carried out by the mathematician Warren Weaver, starting with the mechanisation of dictionaries, the Warren Weaver's memorandum was published in July 1949. Indeed, this writing delimited subsequent studies and advances in the area of automatic translation (Calude, 2003, p. 68). As Hutchins reports (1995, p. 433), Weaver "outlined the prospects and suggested various methods" innovative and new in the field that made possible the further exploration and adjustment of these systems.

Since then, MT has attracted the attention and interest of many developers, programmers, scientists, and linguists, who were interested in this technology and were willing to adapt it to the evolving market needs which have arisen in the last seventy years. The original concept from which this invention was developed has undergone considerable changes and advancements over the successive years, dealing with some special situations with respect to its full development (Hutchins, 1995, p. 434-435).

However, the initial optimism motivated by the IT developments in the linguistic environment was tempered and paused by the previously discussed ALPAC report. Indeed, although the ALPAC report had positive consequences for the development of CAT tools, this was not the case for MT. The perspectives examined declared that automatic translation system was not an interesting area of research to invest in further studies, thereby declaring that this translation approach would not be supported in the near future, as in terms of accuracy and cost it did not fulfil the established criteria. This report had a very strong impact on the United States, which considered MT to be irrelevant for several years (Hutchins, 1995, p. 436-437).

Although the United States had partly abandoned the research in the area of automatic translation system, its development did not completely stop. The research in the field undergone a radical transformation after the ALPAC report, with respect to the research institutions located in this situation mainly in the European and Canadian area (Hutchins, 2015, p. 437).

Furthermore, the use of MT has experienced a considerable acceleration in the 1990s, with a significant expansion in various industries. Its rise, as also stated by Hutchins (1995, p. 442), was extremely evident in commercial agencies, government services, and



multinational companies, in which high-volume technical translations were produced. This meant that the use of MT systems was required and applied in different domains and for different purposes and needs.

As a result, in the 1990s, studies on the programming of automatic translation system reached unprecedented levels. The numerous experiments carried out in the preceding decades resulted in the construction of increasingly developed calculating models that are able to recognise each linguistic aspect of a given word or phrase. For instance, these new networks become efficient at identifying and distinguishing the syntactic and semantic features of a word, in order to produce an increasingly accurate translation. Therefore, the relevant element of MT is the machine's ability to perform precise and correct translations, very similar to those performed by humans (Hutchins, 1995, p. 440).

Following the latest developments, MT has gradually entered the translation process and, given its increasingly high quality, it is now used for the translation of all text types. This therefore proves that, over the years, MT has been completely adopted and modified in order to meet all the requirements emerged in this sector. Its programming has been based both on the recognition of the single word but also of the expressive form and structure which characterize certain text genres, in order to propose a final output that takes into consideration the existing variations between different text types. For example, this system has been applied to the translation of newspaper articles, medical reports, legal documents, tourist leaflets, just to mention a few. MT has also been trained to recognize the different textual genres and types within a particular given domain. For instance, in the legal field the characteristics of different text types (e.g., contracts, policies, certificates) are recognized and highlighted during the translation workflow (Calude, 2003, p. 75).

Research and new discoveries in the technological field since the 2000s have made this tool even more sophisticated, creating functions that went beyond the textual dimension. The machine's encoding and recognition of other visual or audible elements such as images, videos, songs, or voice notes, made it possible to translate even words extrapolated from these elements, extending the translation process to any representation of communication (Berdica, 2016, p. 69-70).

Although the system on which MT is currently based is still under development, the form it assumes today is completely different from the initial concept on which it was based.

The product that is currently offered on the translation market is the result of all the studies in the field of technology, which have resulted in a tool that can autonomously manage the translation process. The functions on which it is based have introduced a series of positive and sometimes negative consequences, as highlighted in the following paragraphs.

### *1.3.2. The advantages and limitations of MT*

The diffusion of the automatic translation systems involved and changed the translation process and also how it could be performed. The innovations created have consequently generated benefits but also some negative aspects that lead to criticism of such tools, which will be presented and discussed in the following section.

As occurred with the advent of technology in the translation industry, the use of MT engines has caused some evident changes in both the translation workflow and the status of translators themselves (Teh, NG, & Foo, 2016, p. 2). In the translation sphere, new goals and standards have been achieved by maximizing the opportunities that these systems offer. Therefore, it must be reckoned that these new tools have created new advantages for their users, even though some negative opinions about certain effects of MT have quickly arisen.

The main advantage that MT has introduced into the translation industry is the element of autonomy and instantaneity. Since the “machine can automatically do the work” of the translator (Berdica, 2016, p. 69), in a matter of seconds the software produces a complete translation of sentences or entire uploaded texts. In this way, its user can quickly receive a translation for the requested language when normally one or more human translators might take longer to process. In this case, it is evident how the previously introduced speed factor has affected the translation process. MT has generated significant consequences precisely with respect to the amount of time used to produce the translation, shortening this process. Although the output produced by this system is not always suitable in respect to the proposed form, the translator would have to perform a revision activity that may be more or less significant with respect to the text used.

As O'Brien pointed out (2012, p. 111), professional translators may sometimes experience the idea to “feel devalued by technology”. In the case of MT, this thought may be initiated

by the task performed and the capability possessed by the machine in the linguistic domain. The independent and time-constrained production of excellent translations has generated feelings of doubt and hesitation on the part of the translator, as the machine's production has over time reached important quality levels.

However, this feel may be dictated by the personal emotion of the translator and may not fully represent actual reality. Although MT automatically translates sections of texts, the involvement of human translator is still present in this process (O'Brien, 2012, p.111). In this case, its performance is mainly related to the post editing phase, i.e., they edit the output produced by the machine to improve the stylistic quality or correct mistakes. Therefore, translators work on a text that has already been translated by the machine applying a variety of rules and standards in order to deliver a suitable and correct target text to the customer. In this case, the output produced by the MT system may have errors or fail to reflect some linguistic features that the human mind can easily recognise, and, for this reason, a more significant check carried out by the translator may be relevant (Teh, NG, & Foo, 2016, p. 3).

Also, as it was already indicated with CAT tools, MT systems cover the same main improvements generated by technology in the translation sphere. The use of such a tool has resulted in the production and control of texts of increasing quality, to the point of completely satisfying the demands made to the machine. Although in some specific translation contexts some imperfections on the part of MT are evident, as Heiss and Soffritti (2018) point out in their analysis of DeepL Translator, the quality produced by this tool is remarkable. Translation and searching in the correct equivalent have become increasingly precise and sophisticated on the part of the machine, increasing its effectiveness in the translation process.

In addition to being fast and efficient, the translations offered by MT do not include any kind of cost, thus being cheaper than a human translator. The service offered is free of charge, therefore without requiring payment for the translation per word (Calude, 2003, p. 70). Some machine translation systems may also provide the public with some additional and more elaborate services, which may require a subscription for the service, as the TM system DeepL Translator offers to its users. In any case, the membership is mainly directed towards other functions in addition to translation, while the general translation of the sentences is always available to its users without charge.

Moreover, with the advent of the Internet, these services have been extended on the market to everyone and not only to professionals in the field but also to the general public. Nowadays MT software can be used on any device without any special requirements for its use. The only characteristic that is required is to have an Internet connection, in order to connect to the tool website for indicating and obtaining the final translation (Han 2020, p. 69). In effect, the most popular and known automatic translation software, such as Google Translator, is only available on its website or in downloadable apps on mobile phones or tablets (Calude, 2003, p. 77).

In addition, the accessibility of MT to all has promoted the overcoming of language barriers between people of different nationalities. Thanks to the computer codification of almost all languages and alphabets of the world and the dissemination of this tool to the public, communicating with others has become even easier. Even if one does not have knowledge of a particular language, MT can solve this problem by offering the possibility to immediately translate the requested sentence or text for any desired and indicated language combination (Pym 2011, p. 2). Technological developments resulted in the integration of a significant number of languages, consequently providing any kind of language translation. Considering again the example of Google Translate, as reported by Berdica in 2016 (2016, p. 69), at that time the tool supported a total of 103 languages, thereby providing the choice of selection between a large number of language combinations.

As a result, the benefits contributed by MT are directly connected to the technological developments determined and applied by research in these tools. Referring to the previously described non-textual translation, the translation process with the automatic system was also made possible for speeches, pictures, and videos and voice notes, even in real-time. In this way, MT systems can take care of the translation of any kind of linguistic representation without placing any limitation or restriction on its use by its users (Berdica, 2016, p. 70).

However, as it was indicated with CAT tools, also MT sometimes may have some limitation in their use, which may affect the linguistic or technical dimension. In some cases, its application for the translation of a specific text may be challenging or demonstrating some issues about its performance, as it will be discussed in the following paragraphs.

As reported in the research carried out by Teh, NG, and Foo (2016, p. 10-11), the respondents of this survey expose a limitation of MT with respect to the accuracy of translation, which is sometimes not fully respected by the tool. In this case, the focus of this statement is on hidden and implicit meanings present in the source text, which are not fully expressed in the words used but are meant to refer to further, additional, and external elements. The presence of messages that do not respect the linguistic representation of communication but are presented with specific forms of communication are often not easily understood by the machine, operating an exclusively literal translation that does not reproduce the source text in its entirety (Teh, NG, & Foo, 2016, p. 11).

For example, from a linguistic point of view, the translation of certain lexical structures, such as idiomatic expressions, may be challenging. Generally, the translation of such expressions into another language is always very complicated because the main element to look at is non-literal meaning, which is more than the sum of individual words. In this situation, MT tools may have the tendency to provide inaccurate word-for-word translations which do not match the meaning of the original text and also create some problems in the comprehension of the text creating linguistic errors (Prateek & Soma, 2020, p. 6). However, thanks to the recent technological developments, this possible inaccuracy has now diminished as the most common and widespread idiomatic expressions are included in the translation memory of this tool.

MT performance is therefore affected by other factors that may determine the production of the final translation that may not always be efficient. For example, the research conducted by Latief, Saleh, and Pammu (2020, p. 8) reported some variations in accuracy of MT' output and this can be determined with respect to the source element that is uploaded to the translation tool. This analysis, carried out on Google Translator, indicates that for some translation the accuracy changes depending on how the source text is presented, i.e., whether it is in the form of text or image. "The analysis shows that translations between written word translation are usually good, while those using image translation are often relatively poor", stated the authors (2020, p. 8). In effect, in order to complete the translation process, MT must also perform a conversion task on the uploaded element and this conversion may also depend on the same condition of it.

When considering MT, its approach to the translation process is often studied and analyzed by comparing it with that possessed and performed by human intelligence. Indeed, the linguistic communication is not only based on direct references but also on symbolic interpretations, easily understood and understood by humans but not always

captured by the machine. Therefore, the MT system does not always succeed in interpreting the implicit meaning highlighted in the text, as with the above-mentioned idiomatic expressions, producing unnatural and meaningless constructions that a human translator would never have produced, identifying a possible limitation in its use (Teh, NG, & Foo, 2016, p. 5).

“Conveying meaning is just one use of human language” (2003, p. 69), which is also used to convey other information and feelings that do not require the proper and explicit meaning of the word. For instance, sarcasm, humour, and surprise can be easily deduced from the context by a native speaker but not by computers, which could produce a translation which fails to mirror these intentions (Calude, 2003, p. 69).

In short, MT engine automatically translates texts or phrases sometimes using adopting a literal approach, without holding the main attributes of analysis performed by human intelligence. The focal element that unites the cases of mistranslation mentioned above is the inability of these tools to understand and interpret the meaning of the text. The implicit and cultural factors that are proper to a language are often not recognized in the translations proposed by the machines. Therefore, the output of these tools, in cases where figurative comparisons and metaphors, idiomatic expressions, and references to emotions and feelings in a figurative way, represents a target text which a native speaker would not possibly produce. On reading them, they would result to be meaningless and totally unnatural, causing mistranslation (Teh, NG, & Foo, 2016, p. 5).

As the research conducted by Calude (2003) about the use of the MT tools for various text genres reveals, the errors produced by MT engine may regard the linguistic sphere and this situation is determined by a literal tendency approach to translation by this tool. One of the most common mistakes of MT underlined by Calude concerns the translation of polysemic items due to their ambiguity and, consequently, the different meanings they can convey. The output produced in the target language may not reflect the proper variant in relation to the linguistic and textual context in which that term is inserted and the given original meaning of the source text. In other words, in some cases the words given in the target text may represent a loss of meaning for the translation as it is not maintained, reproduced, and indicated in the same way and this is typical in more complex and difficult textual construction (Calude, 2003, p. 73).

Despite the limitations outlined so far, the impact of MT on translation has been extremely positive. The reduced time necessary to translate a text is certainly an aspect that has transformed this industry. MT can translate an important number of words every minute in automatic, in this way performing sometimes a task that would have required the participation of several translators. In addition, despite the presence of translation errors, MT can still be useful for translators to draft the final translation more quickly (Berdica, 2016, p. 65).

Moreover, research and development in this field are still ongoing, which will lead in the future to the implementation of functions that are today unknown.

#### **1.4. CAT tools MT engines: a comparison**

As observed in the previous sections, the main purposes, and objectives for which CAT tools and MT have been developed are very similar. Indeed, they are both based on the principle of helping in the translation by improving the translator's performance and also the output. Therefore, some features such as speed, textual consistency, and a better quality represent their major advantages. Although these tools seem to be very similar to each other or to be interchangeable, MT and CAT tools are two different translation equipment, and their operation and modality render them two distinct and different tools (Han, 2020, 60).

The main and most obvious element that distinguishes these two tools concerns the role that the human figure plays. Although their operation in both cases involves the participation of humans, their position is perceived in a completely different perspective, requiring them to perform distinct tasks and have a different level of autonomy regarding the activity of translating (Berdica, 2016, 68).

Instead of supporting and assisting the job of the translator, MT largely replaces him or her by automatically producing the final text, while the human only uploads the source text and eventually post-edit the output. Notwithstanding the implementation of MT may appear to show that humans play a secondary role, their participation in the translation process is still active and their performance concentrated in the post-editing phase is perceived as an advantage for translation purposes. In effect, MT systems take care of a primary task in the process, creating the translation for the human to concentrate on

without having to totally reproduce the text. In this case, the professional translator has the advantage of already having a complete translation and only has to readjust it to the register or linguistic and textual demands of the text genre and the customer (O'Brien & Ehrensberger-Dow, 2015, p. 113).

However, as is observed in the analysis conducted by O'Brien, Ehrensberger-Dow, Connolly, and Hasler (2017), the post-editing phase remains a crucial and fundamental stage in the production of the final text. Indeed, "the resistance to the tool" (O'Brien, Ehrensberger-Dow, Connolly & Hasler (2017, p. 148) can be observed during the post-editing process. The stylistic and linguistic choices selected by the machine are not always correct in terms of accuracy or textual consistency. In this way, by revising the translation proposed by the MT, the translator may distance himself or herself from the linguistic options indicated by the software to try to produce a target text that respects the best presentation and textual cohesion.

On the other hand, CAT tools do not completely replace the human, as the translation is processed directly by the translator, also relying on previously translated segments stored in TMs. The prevalent purpose of CAT tools is to facilitate the work of translators, improving, at the same time, his or her productivity. Therefore, the human is actually still primarily involved in translation (Ehrensberger-Dow, 2019, p. 39).

In conclusion, even though MT engines and CAT tools are often interpreted as synonyms, they are different tools that have caused a profound innovation in the field of translation. Their introduction has transformed the traditional approach to translation. Humans in this way started working together with the different computer devices, gradually leaving behind the conception of translation as work that is done manually on paper. Very soon, both the texts and external resources were produced electronically and became essential.



## **2. Legal language and technology**

### **2.1. Legal language as specialized language**

Nowadays, law prevails in many sectors of our lives, whether at the workplace or at home, determining, influencing, or punishing specific behaviour. Even the most ordinary and daily activities are subjected to a series of legal norms that mainly attempt to safeguard and protect us from any possible negative consequences. For example, when we get into a car accident, accept a job opportunity, buy some groceries, or download an app, we sign written or implicit agreements that are determined and structured by a set of principles in the legal field (Way, 2016, p. 1012).

Therefore, the legal texts to which we are often subjected are the written and practical representation of the collection of rules and principles stated by the legal system of a country or a group of nations. Hence, the developments and the complexity of the legal systems are reflected in the various texts that everyone may encounter every day as well as in legal language (Way, 2016, p. 1012).

From a linguistic point of view, natural languages are influenced by the context and the specific situations in which they are utilized, presenting distinct forms and characteristics with respect to their field of application. Speakers and writers modify their attitude towards language depending on the communicative environment in which they find themselves, using specific linguistic forms and aspects that are not generally used on a daily basis. These languages, which are referred to as “special languages” or “Languages for Special Purposes” (LSPs), are related to specific domains of application, e.g., medicine, economics, mathematics, physics, tourism, which also include the legal area (Zigouri, 2005).

On the subject of legal language, as it has been already indicated, it is one of the so-called special languages whose use is primarily related to reach determine professional purposes and to convey specific information, which in this case are obviously pertaining to the legal sphere. Therefore, the topics and the arguments addressed are mainly and exclusively of legal nature and the concepts express are regulated by the legal and

juridical system of a given country (Nagy, 2015, p. 264).

Legal language requires and involves special lexical, syntactical, and textual constructions which can vary from one language to the other (Nagy, 2015, p. 265). This is because it is shaped by national and international laws and regulations as well as political notions, decisions, positions, and processes. Very often, emphasis in these documents is on the norms which contain and define the referenced notion and situation expressed. The presence of the specific quotation from the normative perspectives adds authenticity to the discourse, pointing out not only the written source from which the various notions derive, but also clarifying the terms used to express those concepts. Therefore, these terms serve both to explain the situation in which a person finds him or herself, but also to express a thought of political value: the terms used in legal language can express judgments and condemnation for specific actions, and for this reason an explanation and specification of them may become fundamental (Alcaraz & Hughes 2001, p 10-11).

As an LSP, legal language is primarily used for the communication between experts based on a well-defined collection of references and communicative purposes that are known and recognised by all the members of the community and are the foundation on which the various dialogues are based (Prieto Ramos, 2019, p. 33).

The specialisation in the legal domain, as in the other disciplines, also requires a specialisation in the typical linguistic expression that characterized the communication and situation discussed. The distinction between special linguistic varieties and natural language precisely concerns the adoption of recurring and special structures in order to convey a certain message (Colonna Dahlman, 2006, p. 8). In the legal sphere, predefined, recurrent, and essential forms of expression of a given context are therefore present and required. The modalities of expression by the legal professionals are already determined and linked to the context of use, allowing the message to be conveyed in an unambiguous manner.

Considering the lexical section of special language, legal vocabulary then includes terms rather than words. As Vakulenko (2014) reported in his research, terms possess a “special function”, which renders them different from words, and this function is mainly related to the relationship that they possess with the extra subjective reality. This correlation that is established is biunivocal, which means that it expresses a relationship in which a

signifier exclusively represents only one meaning. Hence, the term is characterized by a unique and individual connection with a referent which makes it monoreferential. Therefore, the use of a precise term involves some conceptual restrictions, thus identifying with no or very little ambiguity reality to be referenced and associate that message with a specific individual notion (Khan, 2016, p. 697).

By analysing the special language from a stylistic approach can be observed that certain linguistic peculiarities characterize this communication. In effect, the emphasis with respect to the use of this language is not only on the knowledge and vocabulary component but is also considered from a stylistic and grammatical perspective. As Nagy (2015, p. 265) claims, the idea of accuracy and clarity in the communication event is also exercised at the textual level, preferring and adopting the use of “very accurate and unambiguous expression”. Therefore, the accuracy is also represented and evident in the expressive form of the texts in order to prevent unwanted interpretations. This results also in the frequent use of linking words which have the function to make explicit the logical-semantic relationship between the different concepts.

Another stylistic relevant feature is the use of nominal structures for the explanation and communication of different concepts. Indeed, the centre of attention in this case is oriented on the process, focusing especially on the action and not on the agent who produces the event, thereby resulting in a prevalence of nominal or passive forms (Nagy, 2015, p. 265). Therefore, in special languages the role of the verb is depowered, and consequent importance is given to the event. For this reason, the linguistic tools used for the focalization to the event are the nominalization, the use of passive and unaccusative forms which reduce the valence of the verb.

The legal sphere is a domain with which the citizens are in constant interaction every day resulting in the production of an important number of legal texts included also in the translation process. The use of the language and the translation of legal texts must consider and respect several norms specific to legal language. The following sections will discuss the relation between legal language/texts and translation.

## **2.2. Legal translation**

The translation of legal texts plays an important role in the communication of a legal

content to foreign persons, countries, courts, institutions, or organizations, requiring a specific and different approach with respect to the translation of other genres. Legal translation therefore demands the translator to follow quite different, but essential, strategies to achieve its principal purpose: the delivery of a specific legal message (Biel & Engberg, 2013, p. 3).

As Killman (2014, p. 85) stated, “legal translation is often considered one of the most challenging areas of human translation practice”. This is because different legal languages, e.g., legal English, legal French, or legal Italian, may request the translator to know and adopt specific linguistic norms related to the legal system of a particular country (Biel & Engberg, 2013, p. 4).

The principal problem in legal translation concerns that the distinctive legal languages possess different and peculiar properties, that are not uniform across the countries but are characteristic of a specific jurisdiction. The legal expression forms are typical of the language of a respective nation, and they can differ or adopt distinct structures in the other languages. For this reason, the translator must find functional equivalents for the concepts to be conveyed by adhering to the relevant genre and linguistic norms (Killman, 2014, p. 85).

From a textual point of view, the production of legal texts is influenced by an important textual categorization that divides them into different types of text regarding the conceptual information expressed. Legal texts can be distinguished in different types based on the conceptual information they express, which is closely associated to a specific discourse structure (Prieto Ramos, 2019, p. 29). Each text possesses multiple structures and methods to address particular discussed concepts, thereby requiring a practical and determined use of the language. For example, contracts, wills, policies, and judgments all have different textual structures which must be complied with.

The genre is precisely characterised by a series of communicative purposes that are understood by the expert members of a community and these purposes are expressed according to certain patterns. In these texts, constraints or structures of functional value are used which also reflect fundamental constructions of a given category of legal text. For the translator, the text type is a fundamental aspect to consider, since it also determines the linguistic choices which must be adopted for the production of the target text (Prieto Ramos, 2019, p. 29-30).

Moreover, terminology, syntax, and stylistic elements also characterize the specific

communicative expressions of legal discourse. Terms must be accurate and functionally correct (Alcaraz & Hughes 2001, p. 23) in order to avoid ambiguity. Therefore, the final translation must contain the same legal notions as the original text by using the appropriate term and the expressions in the target language which are the equivalent representation of the source content.

However, the peculiar aspect of legal terms is that they can reflect multiple ways of expressing legal concepts. As opposed to other fields of study, the concepts in this domain are not always universally shared, but they may differ across languages and, in particular, across jurisdictions (Prieto Ramos. 2021. p. 174). Indeed, legal systems can reflect conflicting traditions. Each country has its own history, which influenced the development individual legal systems.

As a result, although some concepts do coexist on an international level, the jurisdictions on which the countries are based are distinct and some concepts can be subject to different interpretations. The translator must also take into consideration the legal features of that respective country when producing the translation. The terminological solutions that are applied to the source text are determined by the achievement of linguistic equivalence and equivalence in the communicative priority. Therefore, the translator must adopt the appropriate translation strategies to avoid discrepancies in meaning, which may generate issues of asymmetry and inconsistency (Prieto Ramos, 2021, p. 175-176).

The use of terms in the legal context is linked to the concept of validity. Terms are the elements that define the effectiveness or ineffectiveness of legal texts, determining whether they are binding or have legal force. Specifically, certain words can have the power to change the events or the state of events. For example, when a court renders a judgment on a matter, the decision takes effect through the very act of uttering specific and precise formulae or simply signing and delivering the document containing those expression (Munzer, 1973, p. 1148-1152).

The lack of direct functional equivalents can generate confusion and misunderstanding with respect to the notions described which, in addition to being unknown to the group of experts in that country, are not lexically represented either. For this reason, the translator can adopt the technique of description: instead of using a specific equivalent, he or she briefly describes the given concept. As an example, some national organisation or offices are exclusively typical of an individual country, while they do not find their correspondence in another nation. As a result, instead of trying to translate the term

literally or proposing the closest possible solution, the translator may indicate a brief description of the concerned organisation or institution to allow the reader to fully comprehend its function (Way, 2016, p. 1010).

The style and the quality of writing are also of interest to translators who attempt to adopt and imitate the expressive form of these texts. In terms of writing style and register, legal translators do not boast the possibility of having a large selection with respect to the form in which they write the translation of legal texts. The final texts must comply to the norms typical of the target language. Hence, the correct level of formality must be reproduced, maintained, and preserved, addressing the various notions using a high register, also using the expressions and syntactic structures that are common and characteristic of that language (Prieto Ramos, 2019, p. 31).

In some cases, the translation of some texts can be challenging as different languages can adopt norms that are not shared by the others, both at a textual and stylistic level. For instance, legal English relies on redundancy as an expressive decision. This technique is typical in English, while it is not present in other languages, such as in legal Italian, which aim for greater condensation of reported information. Hence, in other languages it can be observed that redundancy is avoided or reduced to a minimum, and this creates an important communicative and linguistic divergence between different languages (Alcaraz & Hughes, 2001, p. 9-10).

In sum, the professional translator dealing with legal texts must take into consideration a variety of fundamental aspects with respect to the field of study that he or she is working on and the production of the target texts must satisfy a series of textual and subject-field norms. Legal translation has been applied to translation technologies and all its main peculiarities must be considered.

### **2.3. Legal translation and translation technology**

As a result of the new technological developments in the branch of translation, discussed in the previous chapter, the new translation tools were also applied for the translation of legal texts. Nowadays, the main approach used in the translation process is determined

by IT technologies, by also requiring the use of CAT tools and MT for legal translation (Way, 2016, p. 1015).

### *2.3.1. Legal translation and CAT tools*

CAT tools have also been integrated into the domain of legal translation. In this way, also legal translators take advantage of and use these computer tools. Therefore, CAT tools played an enormous and important role in the legal translation industry, becoming immediately a requirement (Way, 2016, p. 1015-1016).

Nowadays, the majority of law firms demand and require knowledge of using CAT tools by their professional translators, as they consider the many positive features that the introduction of this tools has determined until to become fundamental in this industry. The increasing speed and quality of the target texts were perceived as new crucial aspects influencing the profits and costs to be afforded (Han, 2020, p. 2).

The adoption of CAT tools and TMs helped translators tackling repetitions, thus maximising their productivity, and enhancing textual consistency. Indeed, the main features of these tools and the incorporated translation memories help and assist the translators to recognize the identical parts in the document pointing out and suggesting past translations of the same or similar segment, thus allowing them to translate more quickly and while complying with the relevant linguistic norms (Arturo, 2016).

The adoption of these translation tools also involved an important innovation in the field of study, also in conceptual perspective. Usually, legal translation, as Arturo (2016) evidence, is not merely linguistic translation, but it also involves a more conceptual approach based on comparative law. Nowadays, this procedure is simplified by the use of CAT tools since the equivalents stored in termbases also include information about given concepts, thereby reducing translation errors.

In this respect, CAT tools also provide the possibility of different glossaries which can be customised to meet the needs of specific clients or include terminology typical of a given country of a jurisdiction, or text categories. Also in this way, the project on which a translator is working on is automatically configured according to his or her needs, maximizing the time required in processing the respective notions. (Arturo, 2016).

Even though their use has produced many benefits for the legal translators, certain

features of these tools have turned out to be particularly challenging. Even in legal translation, incorrect segmentation is common. The problem of segmentation is in this case perceived at the sentence level since legal language is characterised by long sentences and a heavy reliance on the use of punctuation. Hence, it may happen different segmentation is required in the target language and it may happen that legal information and notions may be split into many separate sections which alone create some issues in understanding (O'Brien, Ehrensberger-Dow, Connolly, & Hasler, 2017, p. 159).

Segmentation can also affect the translation of acronyms. Since the programme considers the dots as an item indicating a new segment, acronyms can be mistakenly segmented in letters. Here, the segmentation generates confusion and uncertainty for the translator, who is unable to identify the concept (O'Brien, Ehrensberger-Dow, Connolly, & Hasler, 2017, p. 159). Segmentation problems in the legal field are also determined by the specific structure of the text. In some cases, the structure that characterises legal texts may be a limitation for the segmentation, since the linear order is often not in accordance with the conceptual representation of the text, thereby mixing unrelated notions and information. In this way, the translation tool may segment the text by presenting the information to professional translators in a dispersed and inconsistent way (O'Brien, Ehrensberger-Dow, Connolly, & Hasler, 2017, p. 160). For example, an organisation of the text into columns can lead to wrong segmentation, thus generating also in this case negative consequences for the translation.

Also, numbers and mathematic expressions can cause technical issue in CAT tools. Normally, numbers are simply copied into the final text, but some languages may have specific conventions (Nedoma & Nedoma, 2004, p. 5), e.g., the use of commas or full stops as the decimal separators.

To conclude, CAT tools had important positive and negative consequences in legal translation, generating advantages and sometimes disadvantages for the human translator.

### ***2.3.2. Legal translation and MT***

Along with CAT tools, MT has become one of the most popular tools used by professional translators, also for legal texts. The use of MT has generated various positive and negative



consequences in this specific field can be perceived, in some cases, as an advantage (Calude, 2003, p. 1-2).

The use of MT in the legal field has shown to be very useful for translators. The efficiency and the quality level of the output of the legal texts produced by MT have also been assessed in various studies. The innovative functions and aspects of increasing in quality and speed of these tools have changed the way of translating and the way of working in this field, influencing and affecting both the production of the final legal product and human opinion about it (Calude, 2003, p. 3).

However, in some cases the complexity of legal these texts may sometimes be problematic for the translation made by MT systems (Wiesmann, 2019, p. 121) and in the following paragraphs some examples will be presented.

MT cannot “read” the implicit circumstances of the text and may generate linguistic, syntactic, and meaning errors, introducing and wrong or ambiguously expressed information with respect to the source text (Prieto Ramos, 2019, p. 33-34).

Among the issues recent surveys recognised is the application of an excessively literal approach by the machine. For example, the research carried out by Heiss and Soffritti (2018) concerning the use of DeepL Translator for Italian-German legal translations showed that the output of MT is in some cases too literal and do not consider the communicative situation. Therefore, instead of providing a correct equivalent with respect to the context in which it is used, MT literally translates terms, without taking into consideration the most correct variant in the given communicative situation and without accurately reproducing the legal concept of the original text (Heiss & Soffritti, 2018).

Word-for-word translation by the MT causes sublanguage errors in the legal field. A practical example can be demonstrated with the term “*violazione*” in legal Italian, MT DeepL Translator suggests “violation” as a principal translation solution, but, in a legal context, other alternatives could be more appropriate according to the respective circumstances of the message conveyed, such as “*infringement*” and “*breach*”. These three variants indeed share a very similar meaning but with some clear differences regarding their use and application. Therefore, as can be seen from the definition provided by The Britannica Dictionary<sup>7</sup>, it is meant, always in the legal context, by:

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<sup>7</sup> See the online version of the dictionary available at: <https://www.britannica.com/dictionary>

- *Violation*: “the act of doing something that is not allowed by a law or rule”
- *Infringement*: “<sup>1</sup> to do something that does not obey or follow (a rule, law, etc.). <sup>2</sup> to wrongly limit or restrict (something, such as another person's rights)”
- *Breach*: “a failure to do what is required by a law, an agreement, or a duty: failure to act in a required or promised way”.

Therefore, even though the three English terms may refer to the same notion, their use, and also their actual meaning, is varied and is determined by the given legal background. For this reason, in some cases, a literary translation would and might not be appropriate with respect to the original text since the translation proposed may not reflect completely the source meaning (Alcaraz & Hughes, 2001, p. 34-35).

In addition, the translation of specific organisations, departments, or legal entities can be challenging, especially if they are specific to the legal system of a nation. As mentioned above, MT usually performs a word-for-word translation and this occurs even when dealing with proper names. This approach results to be wrong and, in particular, incorrect because the translation may do not reflect the original concept or reference expressed (Heiss & Soffritti, 2018).

Furthermore, there may be cases where a legal authority or organisation, objective of a description in the source text, does not have any counterpart and equivalence in the target legal system. In this case, the translator must intervene directly on the MT output by adopting a strategy that he or she may consider to be the most appropriate or suitable for the text (Heiss & Soffritti, 2018).

An additional instance of wrong translation or non-translation relates to abbreviations. In legal languages, the use of abbreviations and acronyms is frequent. The inaccurate translation of terms through literal translation creates problems of misunderstanding or jeopardise the text factual truth. As reported by Wiesmann (2019, p. 137), wrong equivalents for acronyms result in nonsense for readers, who associate the term with the specific element or notion it refers to.

As research of Heiss & Soffritti shows, post-editing is essential to ensure that inaccuracies and inconsistencies are revised before the text is delivered to the client. Even though the technological developments have made it possible to produce increasingly fluid, fluent, and natural texts, some errors related to mistranslation may be present. For this reason, the human intervention is required and, sometimes, mandatory. Hence, the corrections

and adjustments made by translators are intended to improve the general quality of the translation (Heiss & Soffritti, 2018).

Therefore, even in legal domain, the use of MT involves a subsequent human action in order to correct the errors in order to produce a text that completely meets and the requirements of a given target language. As discussed in this section, the incorrect translation of specialised terms, acronyms, abbreviations, inconsistency, and errors in formatting are some of the examples on which a translator should focus ensuring that the legal texts delivered to the client will satisfy and the relevant requirements (Mileto, 2019).

#### **2.4. Related research in translation technology**

The relationship between translation and technology has become increasingly close, stable, and relevant, including all the indispensable skills and level of specialisation required of professional translators. Nowadays, it is difficult, or nearly impossible, to consider the translation process without the use of technology and computers, which, in addition to modernizing the industry itself, have established new routines. Over the last few years, many scholars in the translation domain have investigated this type of relationship, with special reference to CAT tools and MT (Doherty, 2016, p. 947-948).

Through the users' personal reflections, research has highlighted the positive and negative consequences deriving from the implementation of technology (Doherty, 2016, p. 952).

In this way, the technological advancements have initiated a widespread debate with respect to the new functions, features, and modifications that CAT tools and MT have deployed, collecting all the feedbacks and the recommendations made by professional translators. In this way, the benefits and the potential risks related to the use of CAT tools and MT have been collected in order to be investigated and examined through specific surveys designed by researchers in this field, which provide the fundamental information and aspects with respect to their use.

In addition to providing a representation of translation industry, the use of specific surveys, aimed at analysing the relationship between translation and technology, also made the needs of translators emerge. Indeed, as Muñoz (2012, p. 77-78) emphasises in

his research paper, professional translators have over these last decades experienced several needs, from both the terminological perspective and the management of assigned projects. Furthermore, as the investigator of the European EXPERT project<sup>8</sup> Zaretskaya (2015, p. 2) mentions, “understanding user needs and requirements is a crucial step in the design of interactive information systems”. If the design of the various programmes is focused exclusively on the users, their needs and the requirements expressed would be taken into consideration, developing in this way innovative and sophisticated systems. Therefore, in the last years, surveys have also become the fundamental tools for identifying, examining, and presenting to the public the demands and the requirements that professional translators would like to be implemented in CAT and MT. The forms in which these surveys can be structured are different and this is dependent on the subject area to be investigated. Some surveys may be based on general overviews, summarizing through the data the general experience expressed by professional translators, while others may be focused on more particular aspects, such as the type of technological tool used (e.g., a distinction of needs between MT and CAT tools), the specific technology used for the translation (e.g., DeepL, Google Translate, Trados RWS, etc.), the language combination, and the use of translation technologies for specific areas of knowledge

#### ***2.4.1. Research about the use of translation technologies in legal translation***

Regarding the context of legal translation, many scholars have centred their studies on this particular area of specialized translation, focusing on the employment of translation technologies in the legal field. CAT tools and MT has been applied to the translation of some legal texts by successively collecting the most relevant and significant data concerning how these tools operate and how their features interact in the translation process.

As concerns CAT tools, O'Brien, Ehrensreger-Dow, Hasler, and Connolly (2017),

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<sup>8</sup> EXPERT, which stands for EXPloting Empirical appRoaches to Translation, is a European promoted project whose purpose is to train young researchers in order to promote the research and the development in the field of translation technologies.

created a survey collecting all the observations and feedbacks of professional translators mainly referring to the aspects that they find irritating and any features that they would like to implement about CAT tools. Hence, this survey aimed to emphasise the problems and challenges related to these tools by contributing to a potential future improvement of the aspects that they find frustrating or that contribute negatively to the translation process. The results of their research reveal that the user interface or certain functions, such as the segmentation of source and target text, are considered as common and prevalent problems in the use of CAT tools, generating a not always positive experience for the translator. These aspects sometimes make it difficult or irritating for the user, who must sometimes interrupt their work in order to fix a bad setting of the tool.

Regarding the use of MT for the legal translation process, Wiesmann (2019) tested DeepL for translating legal texts from Italian into German. This analysis is characterized by the compared translated segments provided by MT. Results showed that the effectiveness of MT in Italian-German translations varies depending on the category of the legal text and, above all, the intervention of the human translator is often necessary. The productions of the machine included sublanguage errors and did not mirror the relevant genre conventions also in syntactic terms.

Heiss and Soffritti (2018) also focused on MT and the same language combination to explore the quality levels of the proposed translation. Also, the study conducted by these scholars concerns the analysis on the output proposed by DeepL Translator. The findings of this study proved that final quality is generally high, though post-editing is still required.

Killman (2014) studied instead the translations produced by Google Translate with reference to the translation into English of the Spanish legal vocabulary found in the judgments produced by Spanish courts. The results showed that Google Translate correctly translated the majority of the terms of legal texts. Although the translation was not always successful, this tool could be considered to be useful for legal translators since, for most of the time, its use appears to be reliable, even when translating challenging terms

Zaretskaya's (2015) investigation collected instead the opinions and thoughts of professional translators about MT systems, CAT tools, translation memory, corpora creation tools, and terminology management. However, this study is not exclusively related to the legal translation, but the participation covered every field of translation.

Nevertheless, this investigation can also be useful at the legal level since most of the professional translators who participated are specialized in the field of legal translation: although the survey was intended to address the general sector of translation, a large number of its participants have expertise at the legal level. Therefore, analyzing the collected data, it is possible to outline some suggestions regarding the translation tools and the functionalities that professional translator actually need. The survey showed that MT programmes are not identified as a tool that translators trustfully use. Although they recognise the positive aspects previously reported in this chapter, they claim that MT produces low-quality texts. On the other hand, TM is commonly used in this sector, as it allows high working speed, it consists of a simple interface, it has an integrated terminology management system, and it allows automatic checking of consistency and completeness. For this reason, MT is a tool that raises contrastive feelings in the translation industry: even though the innovations and new features that it has introduced are very positive and effective for the translation process, its actual performance is not always high-quality. Professional translators are often hesitant and doubtful about the proposed automatic translations since they often require the human intervention in the correction of the, hence increasing the time spent on the translation of a specific project. Finally, translation technologies have attracted a considerable interest and attention over the past decades on the part of researchers as their application has also led to important changes in the industry. However, these tools are still under development and some aspects can be changed, added, or abandoned regarding to new demands arise in this sector.

### **3. The use of CAT tools and MT by professional translators: developing the survey**

#### **3.1. Preliminary remarks**

The introduction of IT technologies in the translation field, such as computers, have gradually and completely replaced the use of pen and paper for the translation process, making it completely digital. In effect, the various programs and applications have brought about fundamental changes and innovations in the same process, introducing new functions and strategies. In this way, these new tools have also changed the profile of professional translators regarding the methods and function used in the translation process (Nzuanke & Chinaka, 2018, p. 37).

Nowadays, the use and knowledge of these translation technologies is required by either translation agencies or clients, becoming a significant feature for professional translators. The relationship that is developed with their users may however vary from one person to another and create potential difficulties in learning and understanding new functionalities. For example, younger generations of professional translators are more prone to use innovative tools as compared to translators accustomed to using paper. Being familiar with the use of several computer resources and the Internet, they are more facilitated in figuring out the use of such technologies and functions, succeeding in autonomously correcting errors presented by the program or discovering how to activate some specific functionalities (Han, 2020, p. 60).

New translation technologies do not include only simple and essential functions to accomplish the target text, but they also represent important innovations that are often not easily intuited or comprehensible. In effect, many tools are based on the concept of cloud work, which, thanks to the implementation of the Internet, allow these programs to be used and shared even across different devices. For this reason, professional translators should often be continuing educated or informed of any changes in order to be able to take advantage of all the options that these tools have (Han, 2020, p. 60).

Hence, the IT innovation can be seen as a problem for the translators. On the one hand, they always have to study the new functions of programs and this continuous need for

training can create a feeling of struggle, uselessness, and frustration for many reasons, such as increased difficulty in using that specific technology. There might be numerous and opposite reasons which can determine a positive or negative relationship between professional translators and translation technologies, which can vary from one user to the other (Teh, NG, & Foo, 2016, p.1).

In the past recent decades, the impact that the new technologies have played concerned the alteration of the translation industry, by producing distinct effects and consequences both at the cognitive and the practical level (Wang & Ping, 2020, p. 2-3). The analysis and understanding of all the requirements and demand expressed by the users of translation technologies is fundamental to the design, the improvement, and the introduction of these tools which may be increasingly innovative for the translation workflow.

### **3.2. Research objectives**

The specific research presented in Chapter 4 was structured on the basis of the translation sector already analyzed.

The main research question refers to the relationship established between translation technology and human translators. As pointed out by Wang and Ping (2020, p. 3), since translation technology is nowadays completely part of the translation process, professional translators have had to adapt their work based on the tools they use, taking advantage of every aspect introduced. In this case, the central element of investigation concerns the effectiveness of the new features, i.e., whether the improvements dictated by the technology are actually perceived and experience by its users.

In addition, this research was carried out with the idea of discovering whether these innovations can be experienced differently depending on the domain under consideration, e.g. legal translation.

In order to explore the relationship existing between professional translators and translation technologies, for this dissertation a survey was elaborated with the purpose of collecting translators' opinions about CAT tools and MT and investigate the purposes for which they use these tools, with a view to legal translation. Each professional translator has his or her own experiences and perceptions with respect to the use of technology in



this industry, which consequently determine their thoughts on the use of this tools (O'Brien, 2012, p. 111). As Pym (2011, p. 5) points out, the major focus on these innovations is related "to those who know and control the technologies" and therefore to the main users of these programs, who are mainly professional translators. The study and analysis of the feeling, thoughts, and considerations is very important as the power these figures hold is fundamental to both the current and future context of the translation industry.

In addition to capturing and describing improvements in the production and quality of the target text from the point of view of professional translators, the considerations of professional translators can also become essential for future innovations: being the main and primary users of these technologies, subsequent updates or programming should adopt the suggestions and resolve the frustrations of their users, by making the programs more effective.

Therefore, the main focus of this investigation is on the human figure and, specifically, on the interaction with translation technologies. The questions are centered on the use of CAT tools and MT to highlight professionals' opinions, indications, or possible suggestions regarding their performance and to develop an evaluation by professional translators of the translation technologies available to them.

Although the introduction of technology into the translation industry has also generated the belief that the machine has replaced the figure of professional translator, human still play a key role. Indeed, it is not the programs that complete the translation process but is the human figure who intervenes and takes care of the translation of various projects with the assistance of technology (O'Brien, 2012, p 110). For this reason, while the technology makes it possible to perform the translation process, the central role of this operation is still owned by professional translators who use opposite methods and working strategies compared to the past. Therefore, the focus of the survey is precisely on translators' perception and opinion as main users of these tools, who can only provide an overall assessment of the way CAT tools and MT operate (Doherty, 2016, p. 953).

The centrality of professional translators also suggests the importance of this survey and hence the contribution that the data collected can provide to translation studies. In addition, a description of the effectiveness or ineffectiveness of the features these tools made available to professional translators, their satisfaction, overall opinions, or suggestions that they express can also be the starting point for programming new tools or

future options. The needs of translators are important because, being the main users, their requirements are crucial for better working situations and also for the increase of qualitative aspects of the text production. In order to maintain and improve the level of satisfaction by the users of these tools, translation technology developers must consider, search, and listen to the needs of professional translators (O'Brien, 2012, p. 119).

The survey addresses two types of analysis of translation technologies, namely one about their application in the general context and the other more specific, completely centred on legal translation. Therefore, the focus of the survey involved a secondary specific subject of interest, i.e., the questions also pay attention to the specialized field of legal translation. The various questions answered by the professional translators were not exclusively structured around the idea of general translation but some of them also gathered data with respect to the use of technology in the legal sphere (Muñoz, 2012, p. 79)

In this way, the data also focussed on what consequences the impact of technology in the legal field has produced. As the scholar Camelia (2014, p. 487-488) explains in her writing, legal translation may be challenging, and it may also require specific skills and knowledges regarding the level of expertise of translators. The legal language presents lexical, syntactic, and textual features that render the legal communication specific and different, presenting particular aspects and conditions to the translator that he or she does not usually find in other translation contexts. The decision to consider both specialised translation in general and add a focus on legal translation is determined by the consideration that translators may express different needs with respect to the translation technology used and this distinction may be interesting to highlight some particular needs. Hence, the survey aims to emphasise the needs of professional translators by analysing them both at a general level and at the more specific level of the legal field. The primary objective with which it was designed was to find out whether the requirements of translators change according to the context in which they are working, in other words, whether their demands also vary depending on the characteristics of the task. The adoption of translation technologies has produced opinions that are subjective with respect to the individual user, but also opinions that may differ with respect to the specific context of operation (Ehrensberger-Dow, 2014). Also, the survey intends to highlight whether the changes and requirements in the technological sphere are felt and shared by

translators who operate in different fields of study, i.e., the legal field, on the one hand, and other domains of specialisation, on the other.

The questions submitted to professional translators comply with a variety of criteria that were earlier planned and established in order to obtain a range of data that could facilitate an accurate analysis of certain topics of interest regarding the translation process and, more specifically, the relationship between human translators and translation technologies. Given the different objectives involved in this research, the questions asked to professional translators cover the following issues:

- translators' general attitude towards CAT and MT, with a view to legal translation.
- users' preferences for specific software the motivations for their choices.
- the level of general (dis)satisfaction with CAT tools and MT engines they use, with special reference to those they use.
- the similarities and differences of translation technologies regarding their use in general and legal translation context.

Considering the relevance of opinions and judgments of professional translators on translation technologies, the survey was designed to capture and record all their considerations and the current needs in the field in order to attempt to meet the goals and questions already predetermined. The following section is devoted to general presentation of the survey's structure, its organization, and the target participant, always considering the questions and objectives already explained.

### **3.3. Structure and target audience of the survey**

The structure of the survey was designed to meet the objectives set out in 3.2, in order obtain a complete representation of the current translation sector. The questions which structure it are simple and short, overall requiring its participants approximately ten minutes to complete. The questions that have been included incorporate the main purpose of the research by determining in this way the obtaining of a collection of data that represent the current situation of the translation industry

The questions that constitute the survey were constructed and organised with the aim of receiving answers from participants that related to particular areas to be considered.

Indeed, although they focus on analyzing different and opposite concepts, they reflect the idea of investigating the identical topic: the relationship that has been developed between professional translators and translation technologies, specifically CAT tools and MT. In this way, the set of data obtained makes it possible to construct a complete overview of the profile of the translator in the translation process, considering his role in relation to the use of technology in translation.

It was divided into different sections to cover five main points of interest, for both organizational reasons and the design and presentation of it. The first section is dedicated to the general description of the profile of the participants, collecting general data demographic data regarding the participants' gender, age, educational background country of residence, field of specialization, L1, and main language combination. The remaining four parts of the survey cover instead the relation between the participants and translation technology. Specifically, each section focuses on specific translation technology (i.e., CAT or MT) and the domain of its application (i.e., specialized translation in general and legal translation). Hence, they investigate the use of and opinions about CAT tools and MT for specialized translation in general (sections 2 and 3), discussed in Chapter 4.2. and legal translation only (sections 4 and 5), discussed in Chapter 4.3. The aspects that are investigated include the use and frequency of use of translation technology, the main program use, the level of reliability to the tool in general and to the specific program, the perceived improved in quality, speed, and terminology consistency, the functions to improve or implement in the tools and the aspect considered irritating, technical errors while using CAT tools and the importance or not to be trained in order to use MT systems. In addition, for the legal sector, they were also asked which textual genre the participants have ever translated and the frequency of use and reliability level to use the tool for a given legal genre. However, it is asked to the users of these tool to also give a brief comment and reason regarding the judgement and choice they have indicated<sup>9</sup>.

The survey adopted a qualitative approach. The questions were structured to collect data on the participants' personal opinions, experience, and thoughts. The decision of

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<sup>9</sup> See the survey at:  
[https://docs.google.com/forms/d/e/1FAIpQLSfgboisEmInWQsp9tbcssijtZBQZ4eQC194QuMG9gWeBCDiqQ/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSfgboisEmInWQsp9tbcssijtZBQZ4eQC194QuMG9gWeBCDiqQ/viewform?usp=sf_link)

implementing this type of research method is actually determined by the main purpose that this dissertation aims to achieve. In order to be able to develop a study concerning the behavior of professional translators, it is necessary to be aware of their habits and preferences which, obviously, can be indicated exclusively by themselves, thereby focusing not on the factor of the quantity of sharing this action but on the aspects that characterize their daily activities. Hence, considering that the interest of the data collected is not focused on the idea of quantity but on the aspect of opinions, the information obtained must also include the personal experience and individual thoughts of the participants, which may precisely also be not shared and highly personal.

For this reason, the choice of question type was influenced by this thought by determining the recurring use of the same forms. Mostly single-choice or multiple-choice questions were developed, including numerous alternatives but always allowing participants to express their personal opinion or indicate other customizable options. Therefore, the questions are opened to the creation of a dialogue with the pooled professionals, which was also encouraged through the presence of open questions, giving them the opportunity to express any consideration freely with respect to the subject matter.

The survey was set up in Google Forms. This platform is utilized by its users in order to construct questions and surveys by providing some central features that render it a simple but efficient tool for different needs. The main reason that motivated the use of this application is its user-friendliness for both the researcher and the potential participants. The functions that can be utilized are presented on the website in a clear and intuitive form, without the need to have any preliminary knowledge about the program but basing its use and understanding on the aspect of practice.

Participation was not opened to the general public but limited explicitly to professional translators only. For this reason, the respondents were asked to confirm they work as professional translators and indicate their years of experience. Hence, their profession was the only controlled variable. The requirement to occupy this job position is mainly related to the principal purpose on which this research is based, which is to analyze CAT tools and MT according to the opinions and experiences of their primary users. The introduction of CAT tools and MT has significantly influenced the figure of the translator, consequently also revolutionizing the main characters and methods followed in the process by adopting and determining them completely to the tools used thereby becoming

their main users. For this reason, submitting to professional translators any questions regarding their relationship with technology determines an intensive analysis of the transformations both in the behaviors and necessities developed. Obviously, since the job position of the participants is the only mandatory requirement in order to take part in this research, the respondents cover different personal characteristics, both in terms of their age and personal information and the expertise level they may possess. In this case, as it has already been indicated, the initial part of the survey includes a small section related to more personal aspects of professional translators in order to be able to delimit the profile of the participants as well, analyzed in Chapter 4.1

### 3.4. Distribution of the survey

The survey was released by attempting to reach the audience to which it was addressed, i.e., professional translators who work in translation agencies or as freelancers. Being Internet-based, the survey was easily accessible to an international audience. Indeed, the use of these types of tools permitted to reach and contact the specific audience previously established for this investigation, thereby submitting to them the various questions with respect to the interaction with translation technology.

Firstly, the survey was distributed using the websites ProZ.com<sup>10</sup> and TranslatorsCafé<sup>11</sup>, which host large communities of professional translators, by using the forum for discussion that these organisations provide to their users, who were asked to participate voluntarily in this research. In addition, the professional association AITI<sup>12</sup> (*Italian*

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<sup>10</sup> ProZ.com (<https://www.proz.com>) is a translation-based social network service that is principally utilised for the exchange of information between professionals in the industry. This website has established a community of international professional translators that provides them with a multitude of services.

<sup>11</sup> TranslatorsCafé (<https://www.translatorscafe.com/cafe/IT/quicklook.asp?TID=466632>) is a website designed for translators, interpreters, dubbers, and other language specialists, including also their possible clients. The users of this website can get in touch with other members of this linguistic community at an international level, taking advantages of a range of services that the platform provides.

<sup>12</sup> The Italian Association of Translators and Interpreters (AITI; in Italian *Associazione Italiana Traduttori e Interpreti*; <https://aiti.org/it>) is an Italian non-profit association whose members are professional translators and interpreters from various translation areas (e.g., technical-scientific translators, editorial translators, legal translators, etc.)

*Association of Translators and Interpreters*), an Italian organisation that includes as members Italian translators, was also contacted for the potential participation of its members. In this case, the dissemination process occurred in a different way, i.e., by contacting the association and asking to distribute a notice via their mailing list.

Furthermore, the company LawLinguists<sup>13</sup>, with which I completed an internship as editor and Project Manager at their branch in Barcelona, also contributed to the distribution. LawLinguists is a company that provides its clients with legal translations for any language combination that they may require thanks to its team of editors, both in-house and freelance, with a background in the legal field of study. Hence, the survey was also shared with their in-house translators by sending the link to the various editors via Skype chat. Consequently, the various results obtained also take into consideration the personal considerations of professional translators who work every day in the field of legal translation.

In this phase, some problems related to the lack of feedback from professional translators emerged. In some cases, professional translators or associations of translators seemed not to be interested in taking part in the survey because they were doubtful about the treatment of the results or the purpose for which they were collected. For this reason, in some cases, direct communication was established with some translators for explaining in detail the motivations and final treatment of the data.

The key component, on which the following analysis and research discussed is based, is the survey elaborated which has played a fundamental role in the investigation of the actual sector of translation. The structure and design of this survey was undertaken in accordance with the central question and objectives that this paper attempts to address: how the relationship between professional translators and the two translation technologies, namely CAT tools and MT, is constructed and what their main characteristics are. The questions of which it is composed were drafted always by keeping this precise purpose in mind, by focusing on possible aspects, considerations, and any potential criticisms that would allow finally to develop a general and a more specific

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<sup>13</sup> Lawlinguists (<https://lawlinguists.com/it/>) is a worldwide company of lawyers from all over the world, who provide legal translation services in more than 100 language combinations.

overview about the current condition of this relationship.

Despite the difficulties arisen during the drafting and distribution phases, the responds to the various questions have made it possible to generate a general and specific representation of the attitudes, feelings, habits, and current needs of professional translators, which are explored in Chapter 4.



## **4. CAT tools and MT as used and seen by professional translators: a survey**

The survey developed within this study made it possible to collect data on the personal view and use of professional translators about the translation technologies. As previously announced, the data were collected taking into consideration two main aspects that will be analysed below: the first concerns the use of and opinion about CAT tools and MT for specialised translation in general; the second focuses on their use for legal translation purposes.

The questions were developed with the aim of obtaining the necessary data in order to build a general picture of the current relationship between human translator and translation technologies, using the thoughts of its users as the main mean of description. Therefore, the present chapter is devoted to the analysis of the data concerning the participants' profiles (4.1), their use of and opinions about CAT (4.2.1) and MT (4.2.2) for specialised translation in general, with a focus on legal translation (4.3.1 and 4.3.2)

### **4.1. Demographics**

As it has been previously specified, professional translators are the target participants to whom the survey was addressed, since it attempts to investigate what are their use, opinions, and preferences regarding CAT tools and MT in the translation process.

The data collected through this survey regarding the participants' profile highlight some internal differences among the respondents, although many aspects appear to be shared by various translators. Specifically, the data concerning the participants' gender, age, country of origin and education highlight the participation of different groups, which cover many different generations nationalities, and educational backgrounds.

41 participants completed the whole survey; specifically, (61.3%) were women, 35.5 %

were men and 3.2% preferred not to specify their gender. All the age groups indicated as possible responses (Figure 4.1) were covered. The greatest percentage of respondents is aged between 25 and 30 years old (31.3%). The second largest group includes professional translators between 31 and 40 years old (19.4%), while both 41- to 50-year-old over-60 respondents account for 16.1 % of the sample and 51- to 60-year-old translators represent 12.9% of respondents. The 18-24 age group is the least polled (3.2%), possibly because professionalism is achieved only after some years of training.

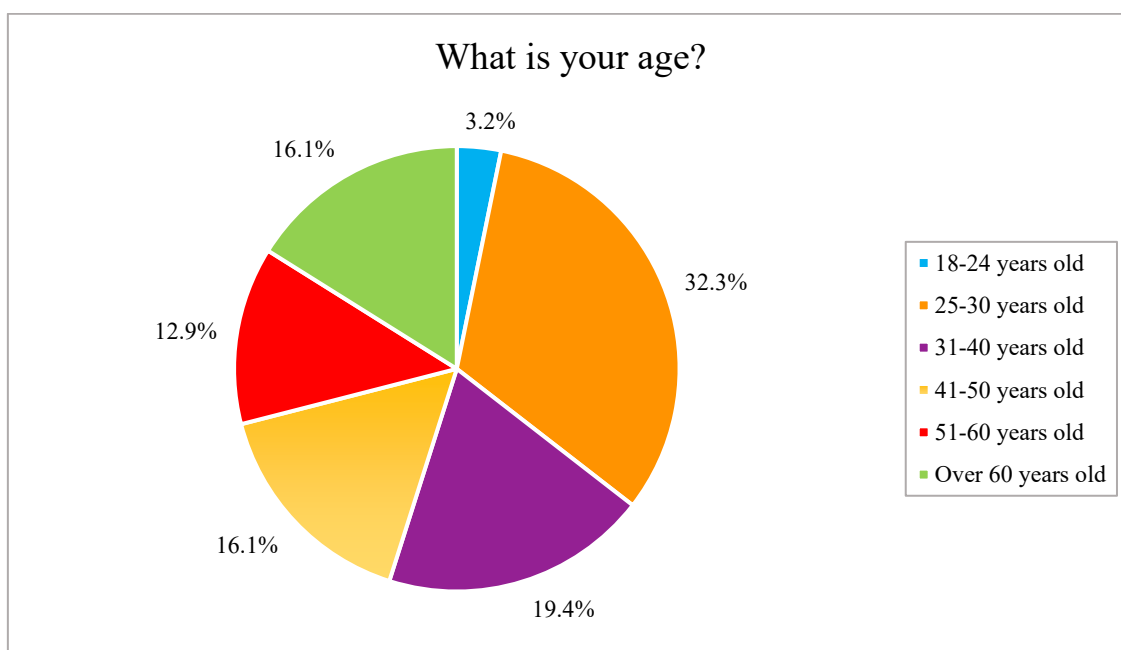


Figure 4.1.: Age groups of professional translators

In this survey, the educational path that the respondents have undertaken in order to be qualified as translators was also investigated. Usually, despite the differences between national educational systems, university studies are generally completed around 25 years of age. All participants reported holding at least a Bachelor's degree (6.4%; Figure 4.2.), including those belonging to the youngest age group.

In this case, by looking at the collected data the assumption previously explained may be confirmed thereby suggesting a possible education requisite needed to qualify as professional translator. Indeed, the survey findings demonstrate a shared tendency as the majority of respondents have obtained a Master's degree (71%), while 19.4% of

translators chose to continue their studies to also achieve a PhD.

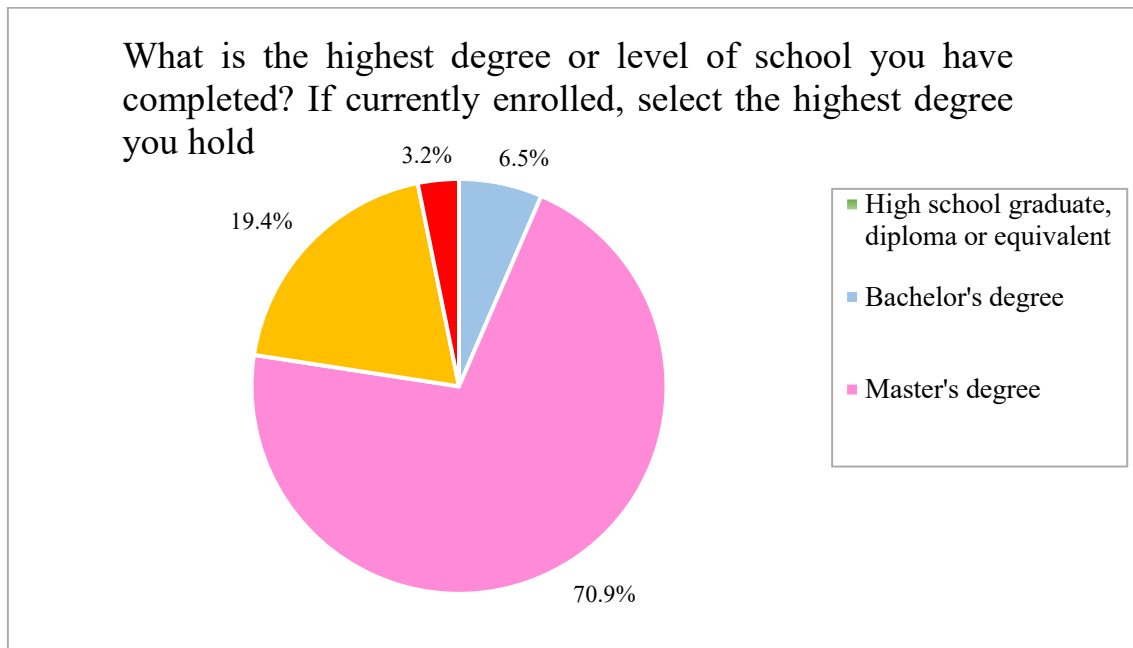


Figure 4.2.: The highest education level hold by professional translators

Hence, the decision to undertake a university career is a common element among the various participants, possibly because it is perceived as necessary for obtaining the fundamental knowledge required of translators. University-level education is a personal choice dictated by the career the student wants to pursue in the future, and therefore required by the industry for which the student would like to be employed in the near future.,. The translation domain presents a series of clearly defined aspects, approaches, models, and schedules that already require translators to possess some background knowledge, which can only be acquired through specific education courses. Therefore, in order to enter into the translation industry, a qualification and an academic curriculum is usually requested and mandatory, which involves obtaining of a university degree (Washbourne, 2012).

Considering more in detail the educational background a tendency appears to be shared by the participants that indicates an additional value to the general representation of the figure of the translator in this investigation. First, for their Bachelor's degrees (Table

4.1.), most of the respondents hold a BA in language and linguistic (51.6%). Therefore, in addition to achieving a high level of knowledge of a language, several undergraduate students learn the fundamental principles that regulate the different linguistic strategies and the basic features governing the writing and transmissions of specific contents (Massey & Ehrensberger-Dow, 2017, p. 308). Those who obtained a Bachelor's degree in translation and interpretation are considerably fewer (19.3%). Therefore, most of the respondents have started their university journey focusing on the linguistic component and consequently on the consolidation of the learned languages and the main approaches that affect the field of the expression of language.

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*Which is the field of study of your Bachelor's degree?*

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Language and linguistic	51.6%
Translation and interpretation	19.3%
Law	16.1%
I do not hold any Bachelor's degree	-----
Other...	
Philosophy	3.2%
I have two language BAs and on science BSc	3.2%
Mechanical Engineering	3.2%
Biotechnology	3.2%

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*Table 4.1.: Field of study of Bachelor's degree holds by professional translators*

The answers regarding the Master's degree also show a similar trend which is directed toward a distinct purpose. As Table 4.2. demonstrates, in this case the majority of translators have pursued a degree in the field of translation and interpretation (45.2%), rather than language and linguistic (22.6%). With respect to the data analysed in the previous question (Table 4.1.), for the Master's degree many of the participants attended

specialized courses in the area of translation, choosing to orient and specialize their university education in relation to their ideal future career. Indeed, most of the participants who began their undergraduate education in the field of linguistics then changed their area of specialization, addressing the field of translation. In addition, it may be noted that some respondents attended instead more specific and advanced training in other specialized knowledge, such as law (12.9%), biology (3.2%), and biotechnology (3.2%). This might be because they decided to add to their linguistic or translation background other specializations or because they are legal experts, biologists and biotechnologists having eventually started a career in translation. In some cases, for instance, the career of the translator may be also determined by a prerequisite of knowledge of the translation context, which then determines his or her future employment and position in a particular translation agency or field (Muñoz, 2012, p. 79-80).

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*Which is the field of study of your Master's degree?*

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Language and linguistic	22.6.%
Translation and interpretation	45.2%
Law	12.9%
I do not hold any Bachelor's degree	6.5%
Other...	
Biology	3.2%
Mechanical & Industrial Engineering	3.2%
Biotechnology	
I hold two Bachelor's degree, and	3.2%
professional certification which is	3.2%
postgraduate	

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*Table 4.2.: Field of study of Master's degree holds by professional translators*

The data regarding the respondents' main areas of specialization appear to be quite varied, including different fields of study and corresponding, in some cases, to their educational paths. For example, many respondents who are principally involved in legal translation (29%) declared having completed a period of education in the legal field and, for this reason, they possess preliminary subject-field knowledge that contributed to facilitate the translation of legal texts. However, since only 12.9% of participants hold a Master's degree in Law, the remaining 16.1% has probably specialised in this field over the years and based on previous experience. Indeed, possessing expertise related to an area of specialization is not mandatory, but can be useful as it facilitates text understanding and research work, thus speeding up the translation process. However, the interesting factor with respect to this question is the clarifications that professional translators gave with respect to their answers. Instead of indicating one of the main areas of interest indicated in the question (Figure 4.3.), many translators decided to clearly specify the sub-field they work in. For instance, 3.2% of the respondents indicated Economics as their main specialization and some of them specified they work in the field of marketing and communication. This shows that nowadays the work of professional translator is no longer linked to a given general field but can be related to some precise sub-fields.

### Which is your MAIN domain of specialization as a professional translator?

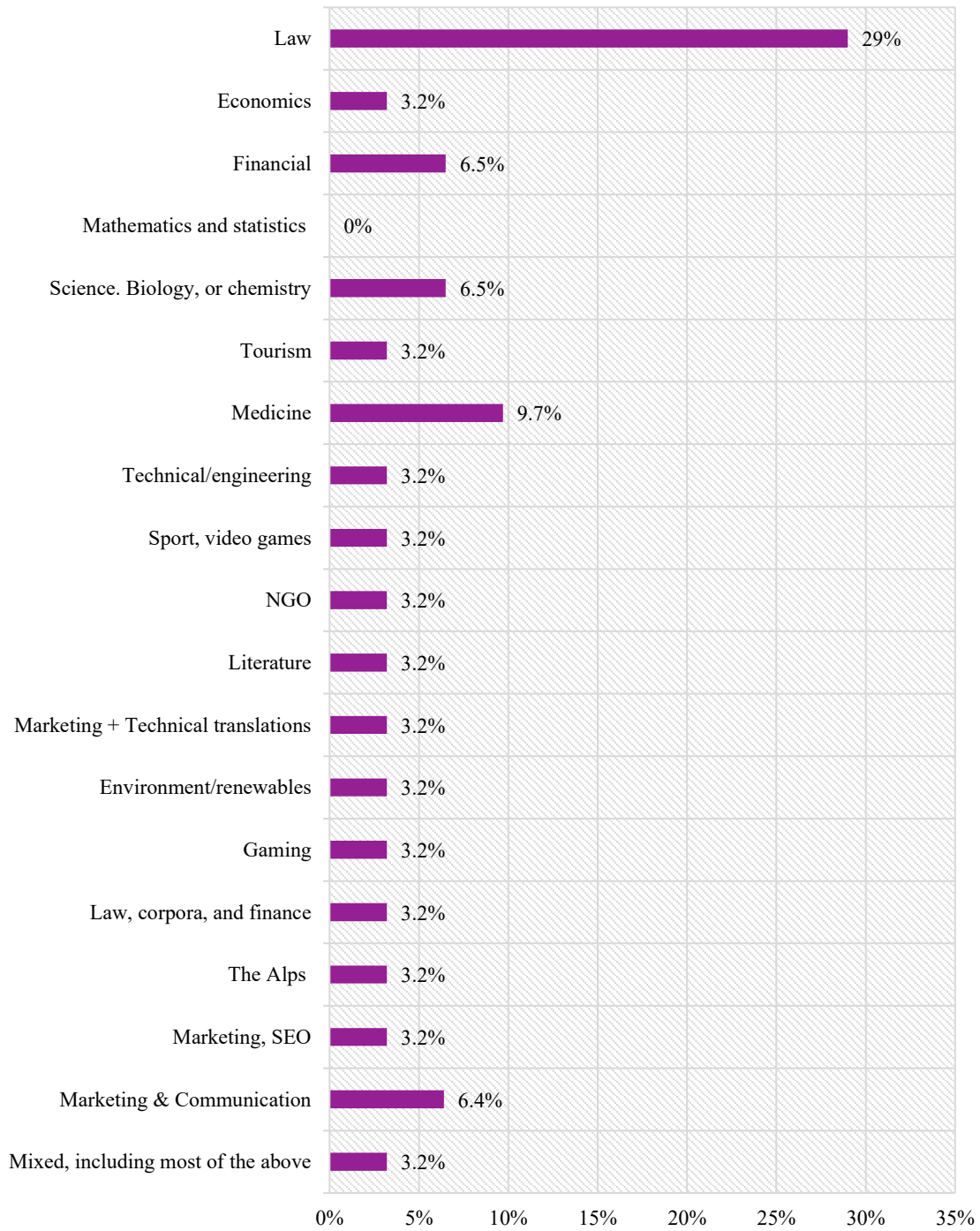


Figure 4.3.: The main domain of specialization of professional translators

Focusing on the place in which they live, respondents indicated a wide variety of countries. Most live in the European geographical area (87.2%), especially in Italy

(32.3%), while a smaller percentage of interviewees are living in the North American area (3.2% in the United States of America and 6.4% in Canada). Interestingly, a respondent from Canada decided to specify in his or her response “CANADA - which has very high standards for translation”. He or she then wanted to underline that, in order to be a translator in Canada, it is mandatory to meet a series of requirements. As it is specified in the basic requirements needed to work as a translator on the website of the Canadian Labour Bank<sup>14</sup> precise requirements are demanded by the various national governments in order to be a professional translator. Besides a specific academic curriculum and the certifications awarded by the various professional associations, fluency in three different languages in the international field is also required (Collins, 2019; Job Bank, 2022).

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<sup>14</sup> The Job Bank is a website which provides support for the Employment and Social Development Canada. Therefore, thanks to the cooperation with the provincial and territorial governments of Canada, it is dedicated to help and assist the citizens to find an employment in the country or to start to plan their future career. The website consists of an online database that collects all job announcements, employment services, and any information that may be relevant for the recruiters and the job applicants for their future careers. See: <http://www.jobbank.gc.ca>



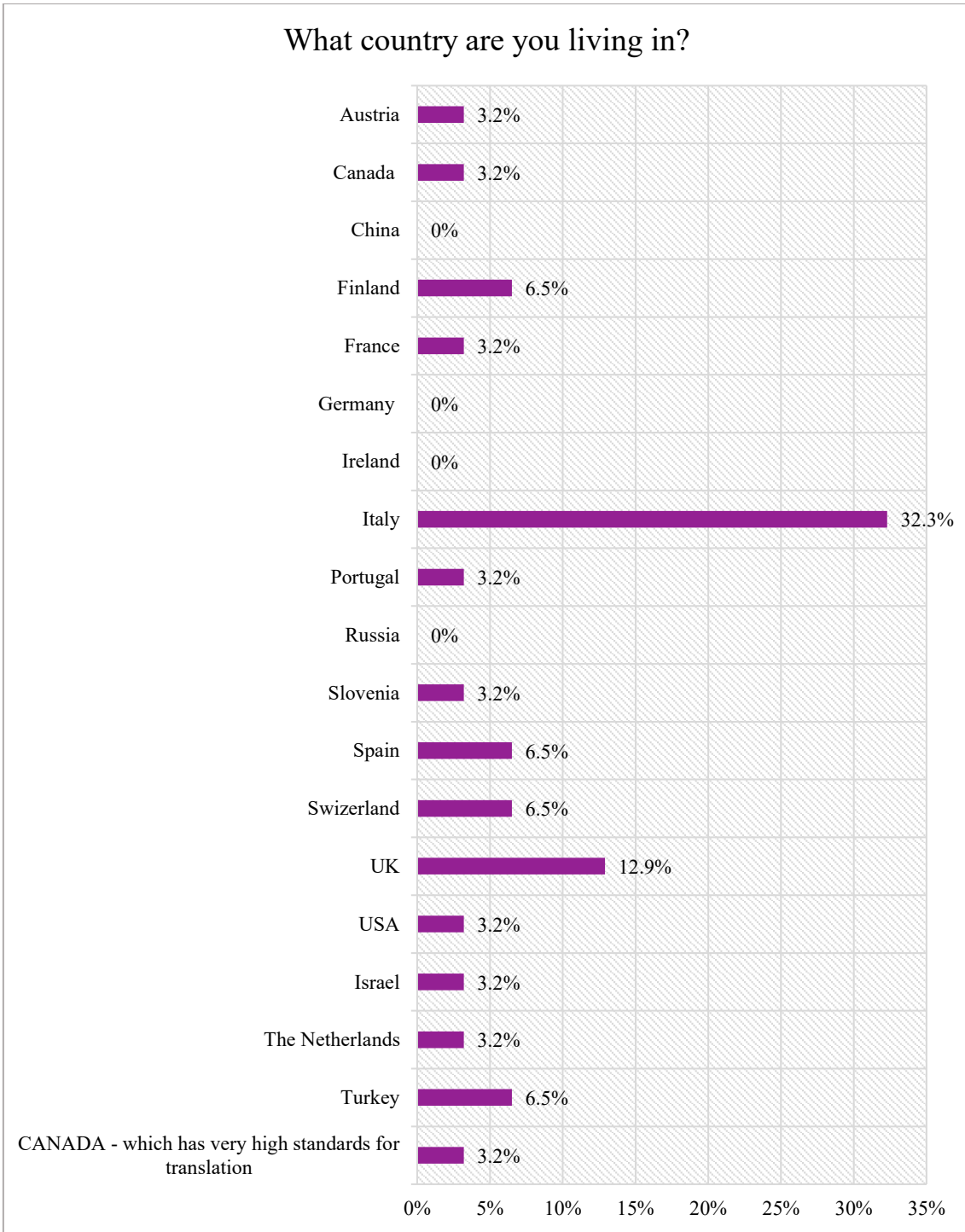


Figure 4.4.: Country in which professional translators are living right now

Moreover, the survey also investigated which were respondents' L1, main source and target languages, and main language combination. With respect to their L1 (Figure 4.5.), responses mirror the variety of nationalities emerged with reference to the country where

they live. Therefore, most translators indicated Italian as their mother tongue (38.7%) or English (25.8%). This suggests that most still live in their native countries.

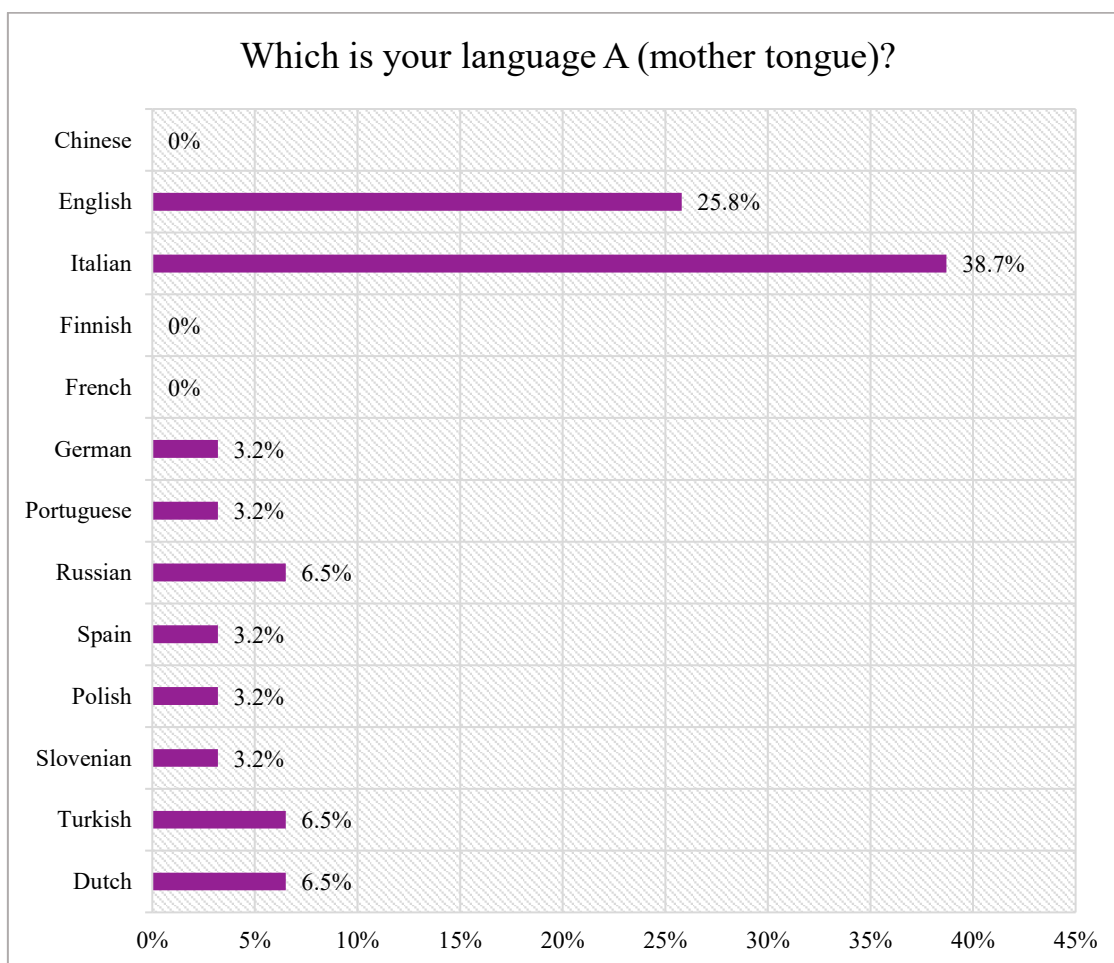


Figure 4.5.: Translators' L1

As far their working languages and main language combination are concerned, the predominant language indicated by professional translators (Table 4.3.), is English, which both the most frequent source and target language. Hence, even though their language combinations vary, 46.3% of translators maintained to have English as either their main source or target language. This testifies to the high demand for English in the translation industry. For this reason, professional translators in this survey possess certain and specific linguistic knowledge of this language in order to satisfy the needs and demands expressed by the market.

Looking at the data in Table 4.3 indicating the participants' main target languages, a

correlation with their L1 (Figure 4.5.) can be highlighted. For example, the percentage of translators having Turkish as their main target language (6.5%) coincides with that having Turkish as their L1 (6.5%). The same applies, though not consistently, to other languages, such as Spanish (TL: 6.2%, L1: 3.2%), Dutch (TL: 3.2%, L1: 6.5%), and Russian (TL: 3.2%, L1: 6.5%), as translation agencies tend to assign translation projects to professional translators who have native-level linguistic knowledge of the TL.

It must also be noted that, in this analysis, the low numbers concerning specific target languages is not a representation of the current market demand but are determined by the low participation of certain nationalities and limited size of the sample.

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*Which is your MAIN linguistic combination when translating professionally?*

<i>Language</i>	<i>Source Language</i>	<i>Target Language</i>
Arabic	-----	-----
Chinese	3.2%	-----
Dutch	3.2%	3.2%
English	46.3%	46.3%
Finnish	-----	-----
French	7.0%	3.2%
German	21.0%	-----
Italian	12.9%	22.1%
Norwegian	-----	-----
Polish	-----	3.2%
Portuguese	-----	3.2%
Russian	3.2%	3.2%
Spanish	3.2%	6.2%
Swedish	-----	-----
Other:		
Slovenian	-----	3.2%
Turkish	-----	6.2%

*Table 4.3.: SL and TL used in the translation process*

*The MAIN linguistic combination indicated by each professional translator:*

<i>Source Language</i>	<i>Target Language</i>	<i>Percentage</i>
English	Italian	17.1%
German	English	17.1%
Italian	English	9.6%
English	Spanish	7.0%
English	Turkish	7.0%
German	Italian	7.0%
English	Portuguese	3.2%
English	Polish	3.2%
English	French	3.2%
English	Dutch	3.2%
English	Russian	3.2%
Chinese	English	3.2%
Dutch	English	3.2%
French	English	3.2%
Italian	Slovenian	3.2%
Russian	English	3.2%
Spanish	English	3.2%

*Table 4.4.: The main linguistic combination used by professional translators*

The primary role of English can be related to its global predominance as *lingua franca*, i.e., as an internationally dominant language. Indeed, English is the international language of scientific, journalistic, and public communication with respect to information and topics that hold global importance and interest, both for informational and educational purposes. Its use allows interaction between different countries and cultures and therefore fulfil the various communicative needs of international settings (O'Neil, 2018, p. 147-148).

Consequently, the predominance of English in the field of specialized translation is associated with its increasing importance and use at the global level and, especially, its expansion for the communication of specialized knowledge. The emergence of English as a *lingua franca* in the major areas of study has determined the subsequent shaping of the texts and, especially, the communicative standards and requirements demanded. For this reason, the communicative necessities that cross the national boundaries required the adoption of an English translation of such texts.

In short, demographic data showed that the participants have similar educational backgrounds despite their differences in terms of age, nationality, specialization, and L1. These differing profiles can enhance the reliability of the following analysis as the participants' habits and opinions concerning translation technology will not reflect those of a homogenous group of users but can be considered a more truthful representation of general trends.

#### **4.2. The application of CAT tools and MT in the translation process**

The quality and the level of performance with respect to the production of target texts depends precisely on the role of professional translators and on the relationship, they established with translation technologies. As Imre (2015, p. 175) explained, “the efficiency of a translator is strongly connected to translation software”, since the way they operate and the final output are connected to the tool they use. Hence, the implementation of CAT tools and MT in the translation process determines both the production process and the overall quality of the final texts by influencing the translator's choices.

Even though CAT tools and MT have two distinct and opposite approaches adopted to translation, they are both developed in order to support the human translator (Hutchins,

1997, p. 119) in producing target texts which can meet the norms and conventions of the target language and the client's specifications. Their personal use in the translation process has determined the development of specific opinions and consideration regarding these tools, which are analysed in the following section.

#### *4.2.1. The use of and opinions about CAT tools*

The action and performance of translators are almost always influenced by their relationship with CAT tools and the decisions they make about using them in the translation process (Krüger, 2016, p. 115-116). However, individual translators have developed specific preferences regarding this software, from both the technological point of view, i.e., the presentation of the working interface, and the functional perspective, i.e., the consequences at the translation level related to the use of these tools. The second section of the survey analyzes the relationship between human translators and CAT tools, considering the different technological and linguistic aspects and issues in relation to the general use of CAT tools by the responding professional translators.

The first question is related to the frequency of use of these tools. Most of the respondents express positive feedback indicating that they normally use these tools in the translation process (90.3%), although with a different frequency (Always: 41.9%; Often: 41.9%; Sometimes: 6.5%). Therefore, the participants are the representation of how nowadays such tools are considered vital for the translation and how their introduction has completely involved in the translation process, determining the need to use CAT tools for the translation of different types of texts. Moreover, the comments made by translators with respect to the reason for this use are interesting. The main reasons which determine this significant adoption of assisted translation are many and, in particular, they reflect the several benefits generated in the translation industry as discussed in the previous chapters. These include the following:

- They speed up the translation process (35.5%).
- They increase productivity (25.8%).
- They increase quality and consistency of terminology using specific TMs (29%).

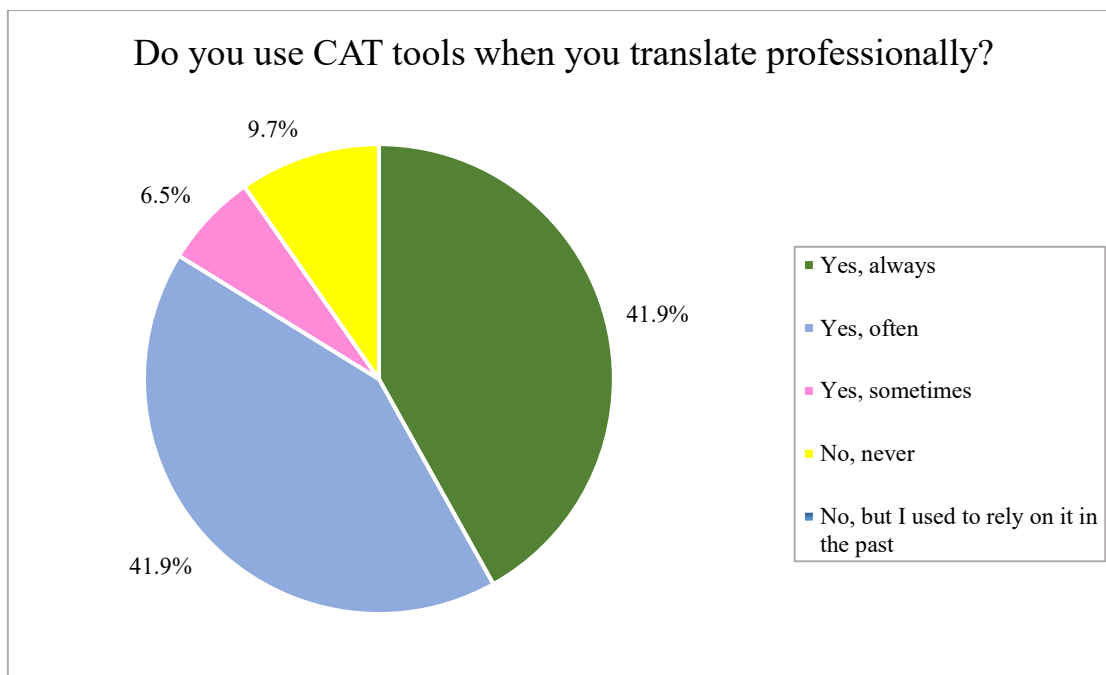


Figure 4.6.: Use of CAT tools by professional translators

Despite that, some respondents state that the implementation of CAT tools for the translation of certain projects is determined by requirements from external sources. As a professional translator explains, “In many cases, the use of CAT tools for a translation project is imposed by customers, who want their own TM to be used for consistency purposes”. The storage of previous translation segments in the dedicated memories also provides that the consistency and the quality of terminology is maintained and respected for different projects but belonging to the same client. Customers often indicate terminology or text preferences to professional translators determined by personal or professional choices that occur in the texts assigned for translation.

On the other hand, some professional translators (9.7%) indicate that they have never used these tools when translating. The motivations reported by these respondents mainly reflect the difficulty of learning how to use these tools and their functions and a significant preference for other procedure which is considered easier, such as “manual translation on MS Word”. The common element among these translators is their age, as those who have never used CAT tools are all older than 60. For this reason, it can be concluded that the technological difficulties these translators complained about may be related to their age, as their generation has witnessed the development of technology but has always had

difficulty in understanding and applying it. As opposed to younger generations, which have attended courses aimed at acquiring IT knowledge and who have grown up with the technological expansion, older generations have gradually accepted this innovation without studying it but applying it directly in their work. Indeed, translation technologies were a new tool that revolutionized their traditional working methods and preferences, which professional translators gradually had to abandon and change for new and modern system. For example, the use of MS Word for translation, indicated as a preference by some of these respondents, has only transformed the writing tool from paper to digital, but the process takes place in the same way: the translation is still exclusively manual and not computerized.

Considering in detail the preferences of the responding professional translators, their own translation actions and methods are totally personal. This also applied to the specific CAT tool that are generally used. Most translators show to be mainly oriented toward a specific program, stating that they generally use Trados Studio (50.1%) for their translation projects. MemoQ (17.9%) and Memsources (10.7%) are, respectively, the second and third most frequently used tools. By the participant of the survey Trados is also considered the most reliable among the pooled tools, having received all medium-high ratings by its users (scores 7-8 out of 10: 22.1%; the Figure 4.8), as opposed to other tools, which did not receive such positive evaluations. Since the quality of the program itself also determines the final quality of the translation, the professional translator is influenced by the way the tool performs, being completely dependent on both the positive and negative effects that the program possesses. However, as the evaluations obtained for the other tools were few as many participants had never used them, a full comparison in terms of quality with Trados RWS was not possible.



### Which CAT tools do you generally use at the moment?

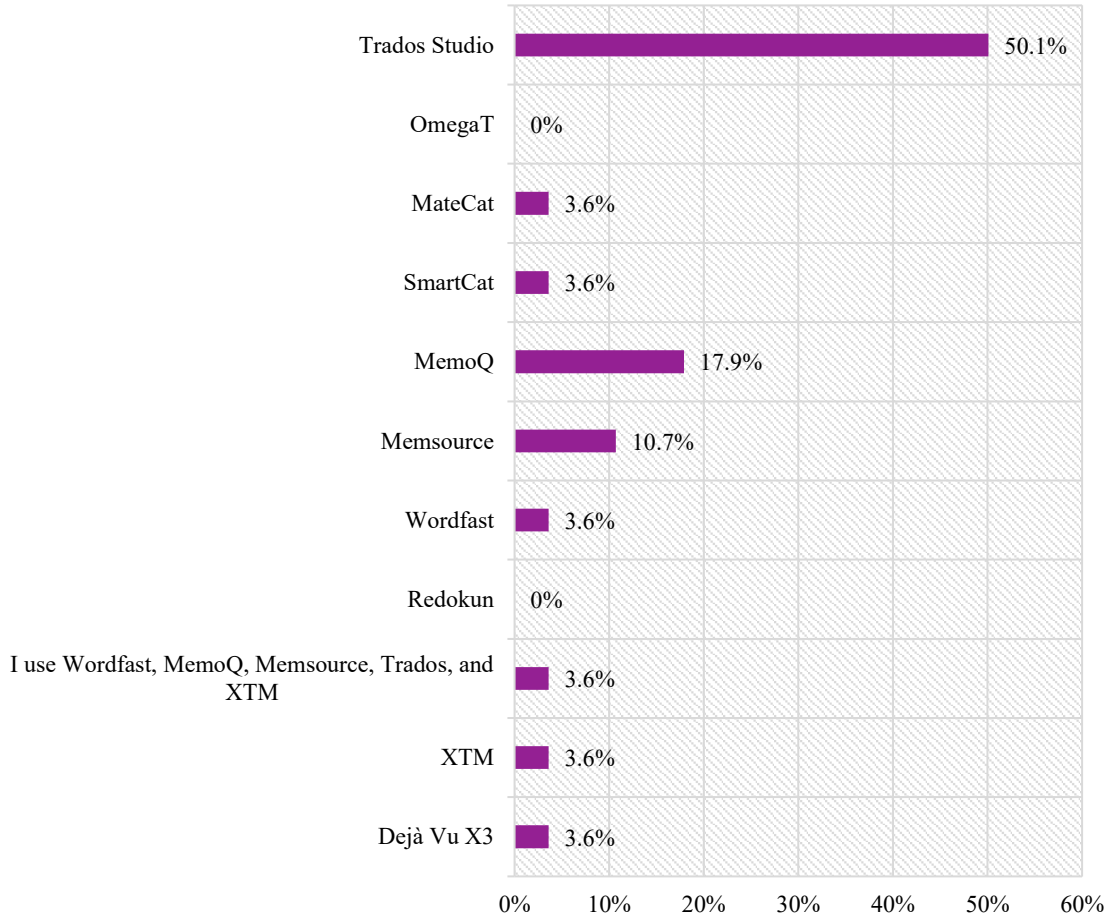


Figure 4 7.: Preference of use of CAT tools by professional translators for general contexts

### In your opinion, how reliable is Trados RWS?

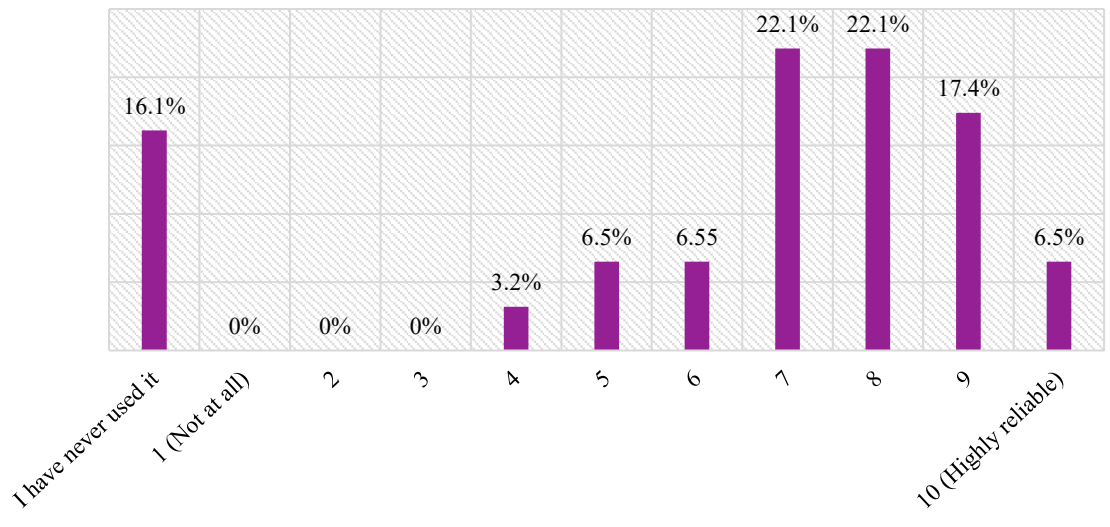


Figure 4 8.: Perceived reliability of Trados RWS

Focusing on the three major benefits generated by the introduction of translation technology, the responses obtained show coherence with the previously reported reasons for using CAT tools. The aspects of speed, quality, and consistency of terminology were appreciated by participants, having recorded the highest score with reference to both variables. Quality recorded instead some lower values, with 7.1% being unsatisfied (assigning a score of 5 out of 10) with the final quality of translations produced with CAT tools. Interestingly, 12.9% of these respondents use Memsource, to which they also assigned this low score of 5 out of 10 concerning reliability, showing a general unfavorable appreciation to the use of this tool. As a translator states, “the suggestion of the software provides an initial draft to work on, making easier to follow the source text against the target one”. In this case, professionals do not consider the proposal made by the program to be complete and satisfactory for the overall quality of the translation text.

Some responses also reported conflicting feelings about these tools. Since CAT tools are programs generated by computer developers and not by translation experts, in some cases professional translators may experience some difficulties in using them or may require modifications and adjustments in order to use them more efficiently. For example, many of the respondents stated that often the design of the CAT is not well-structured. For instance, the majority of Trados Studio users complained about “the working interface that is not always intuitive” and “the general structure of the program, which does not always present a proper working possibility as some functions are sometimes not present and it is necessary to include them through general settings”. In addition, some MemoQ users pointed out “the complexity of using the functions or of finding them in the CAT”, complaining also in this case that the tool used is not adequately and completely set up. “Some CAT tools are not very translator-friendly: developers should make them as easy as possible to use for the translators, otherwise they just slow you down”, another respondent claimed. Therefore, as it is suggested, an inappropriate or inadequate programming of these tools does not only create negative considerations on the part of their users, but it also generates negative consequences for the translation process.

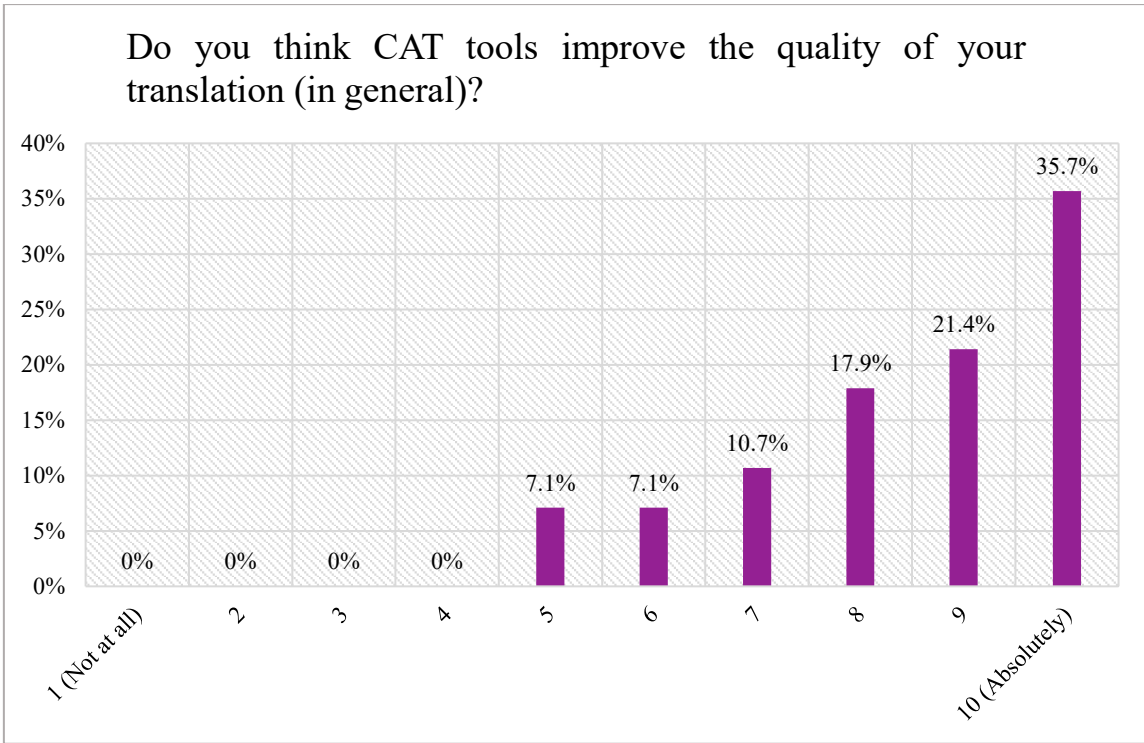


Figure 4.9.: Perceived improvement in the quality with CAT tools for general translation

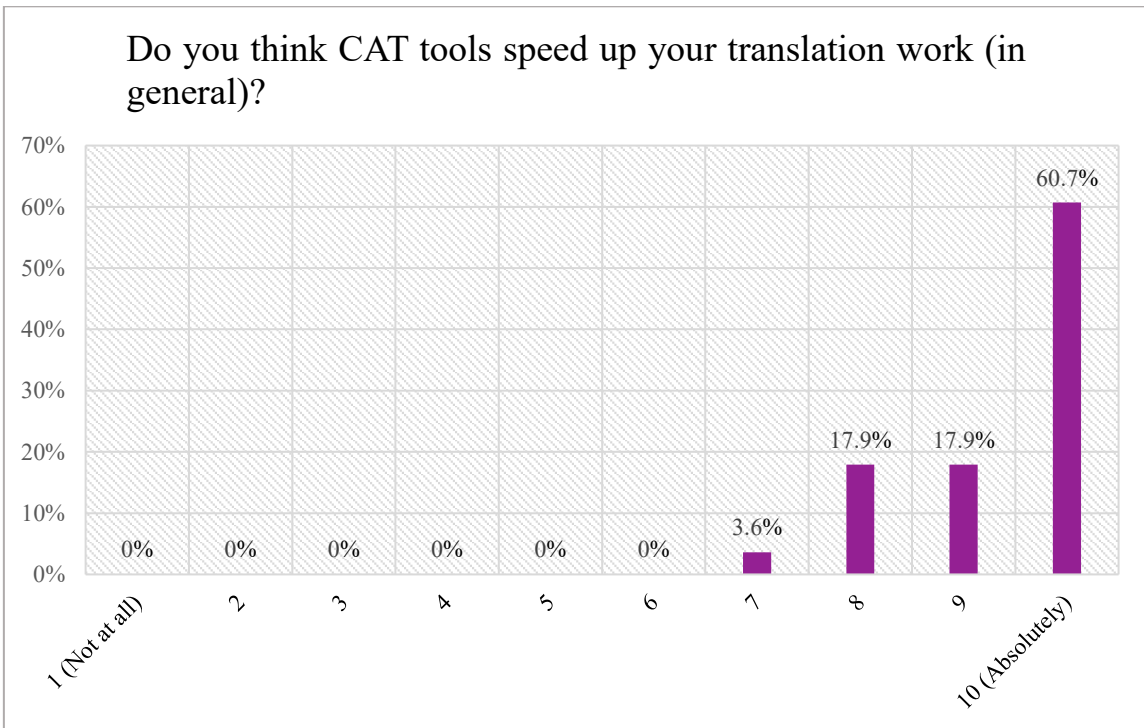
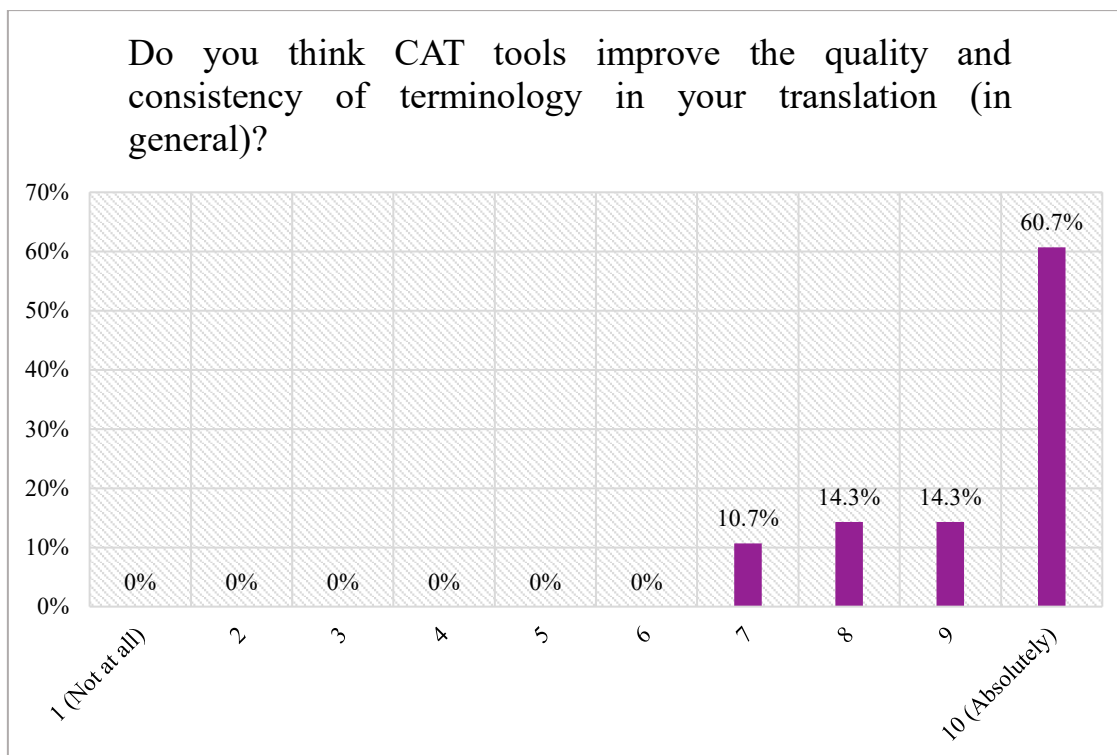
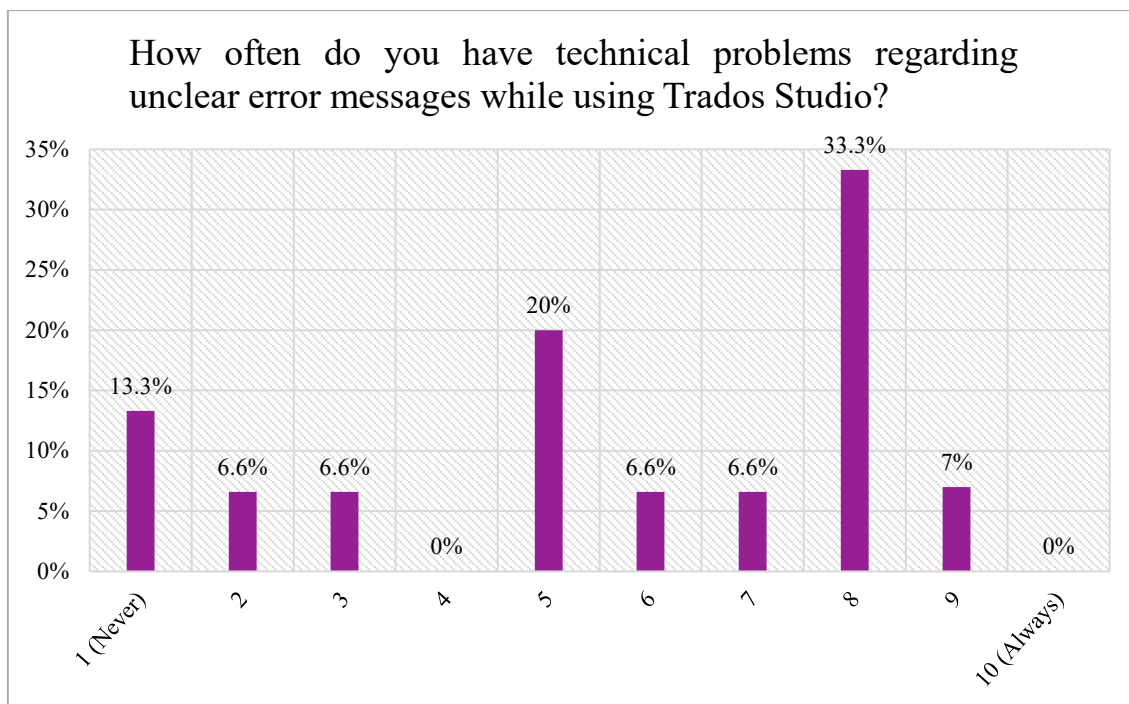


Figure 4.10.: Perceived improvement in speeding of the translation with CAT tools for general translation



*Figure 4.11.: Perceived improvement in the quality and consistency of terminology with CAT tools for general translation*

Another aspect which can negatively influence translators' opinions is software malfunctioning. For example, considering the most used tools by the participants, i.e., Trados Studio, users often reported personal difficulties in solving particular issues while using the program. Indeed, professional translators reported that they have very often difficulties with respect to some error messages that the program displays it which result in creating some difficulties in understanding the type of problem that actually need to be solved for the continued and successful proceeding of translation. Figure 4.12., concerning only Trados Studio users, shows that the frequency with which professional translators experience these messages when using this program is rather high (8 out of 10 for most participants), indicating that these challenging situations can happen very often. These messages generate feelings frustration since, as a participant states, these "are sometimes incomprehensible and unclear", thereby resulting in confusion with respect to the right action and choice to do. The possible explanations for this situation are the constant updates or the inclusion of newly developed functions, which can create a conflict with the users' translation habits or even simple problems in its same function.



*Figure 4.12.: Frequency of error messages in Trados Studio*

Another common issue reported by participants as frequently irritating and problematic for the translation process is segmentation, regardless of the type of software used. The segmentation of the text is part of the functions that the respondents generally would like to improve, whether in relation to the splitting of the text to be translated or to the suggestions saved in the TMs. For example, a user of Trados Studio notes that the tool usually performs an “extreme segmentation” of the source text, consequently causing “difficulties in fully understanding the message and the meaning” that the text is intended to express. Incorrect or extreme segmentation does not facilitate the reading of the text to be translated. Furthermore, the translator is not facilitated when using TMs in the translation process in the case that the saved segmentation does not totally match the source text. Since matches are presented segment after segment, it can sometimes be difficult to “identify the terms or segments that the TMs submit” including contexts that are opposite or inconsistent with the designated situation. The different terms suggested are based on a match of the term found and not on the context in which it is used; therefore, sometimes recognizing the correct equivalent can be difficult and it may require an additional search by the translator.

Despite that, the overall evaluation of CAT tools in the general translation process by the

respondents to the survey is positive. Most of the professional translators, in addition to declare that they normally use this translation technology, observe a generally successful application by highlighting and considering the main functions of these tools to be completely innovative and functional in helping the production of the final translation. In spite of some negative feedback, in particular, regarding the design of the tool and the application of some functions, the evaluation was overall positive for the translation process, indicating that the new developments have determined the popularity and distribution in its implementation.

#### ***4.2.2. The use of and opinions about MT***

In addition to CAT tools, the technological revolution in this field has also resulted in the implementation of MT in the translation process, as it is demonstrated by the respondents. Although the main objective to be achieved is still the same, these tools are based on completely opposite applications and methods, thereby marking dissimilarities in their use and in the reasons for which they are applied. For this reason, this tool has also been gradually introduced into the translation industry but following completely distinct purposes and strategies compared to CAT tools. In order to try to maximize its functions, MT can be used by following different procedures consequently determining different opinions on the part of translators.

Considering even in this case the frequency of application of this tool and considering it by comparing with CAT tools previously analysed, it is possible to notice a difference with respect to these two tools. The frequency of CAT tools use (90.3%, Figure 4.8.) is significantly higher than the frequency of MT use (74.2%, Figure 4.13.), and non-users of MT (25.8%) are three times as many than non-users of CAT tools (9.7%). Some of the participants who decided not to use these tools did so because of a quality factor, which is generally considered insufficient (38.5%). Therefore, these professional translators have developed a negative feeling towards MT; as a participant states, maybe they “do not trust the outcome of MT” requiring always substantial intervention during the post-editing phase “in order to meet the mandatory quality standard, both at the linguistic and stylistic level”. Another reason, mentioned by 15.5% of participants, is that clients do not allow the use of this technology not because of the peculiarities of the final

translated text but for other legal aspects. A professional translator considers the implementation of MT for professional translation “a huge breach of contract” stipulated between translators and customers as, in addition to the selling of a dehumanized service, “clients” proprietary private and sensitive content cannot be pasted/fed into MT engines, because anything delivered to the MT is used to develop its AI”. Therefore, in this way the confidentiality of sensitive data is not guaranteed, and information may be dissemination to third parties, consequently violating the non-disclosure agreement with the clients.

However, the use of MT by professional translation is also widespread among the participants of the survey but with a different value comparing it to the general use of CAT tools, as the distribution of the frequency with which MT is used is lower. Precisely, most participants use MT only “Sometimes” (45.2%), while only 16.1 use it often and 12.9% use it in all circumstances. The less frequent use of MT as compared to CAT appears to involve a feeling of uncertainty with respect to the performance of this technology. Many participants (24.3%) who declared to use it “Sometimes” instead almost always use the assisted translation technology.

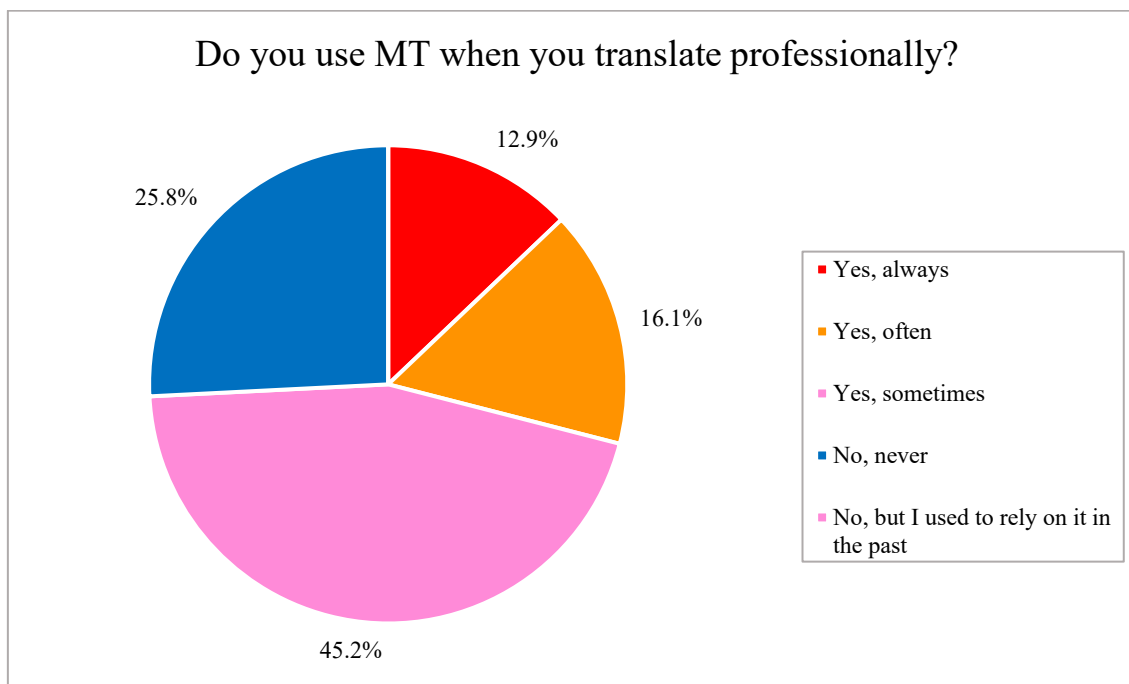
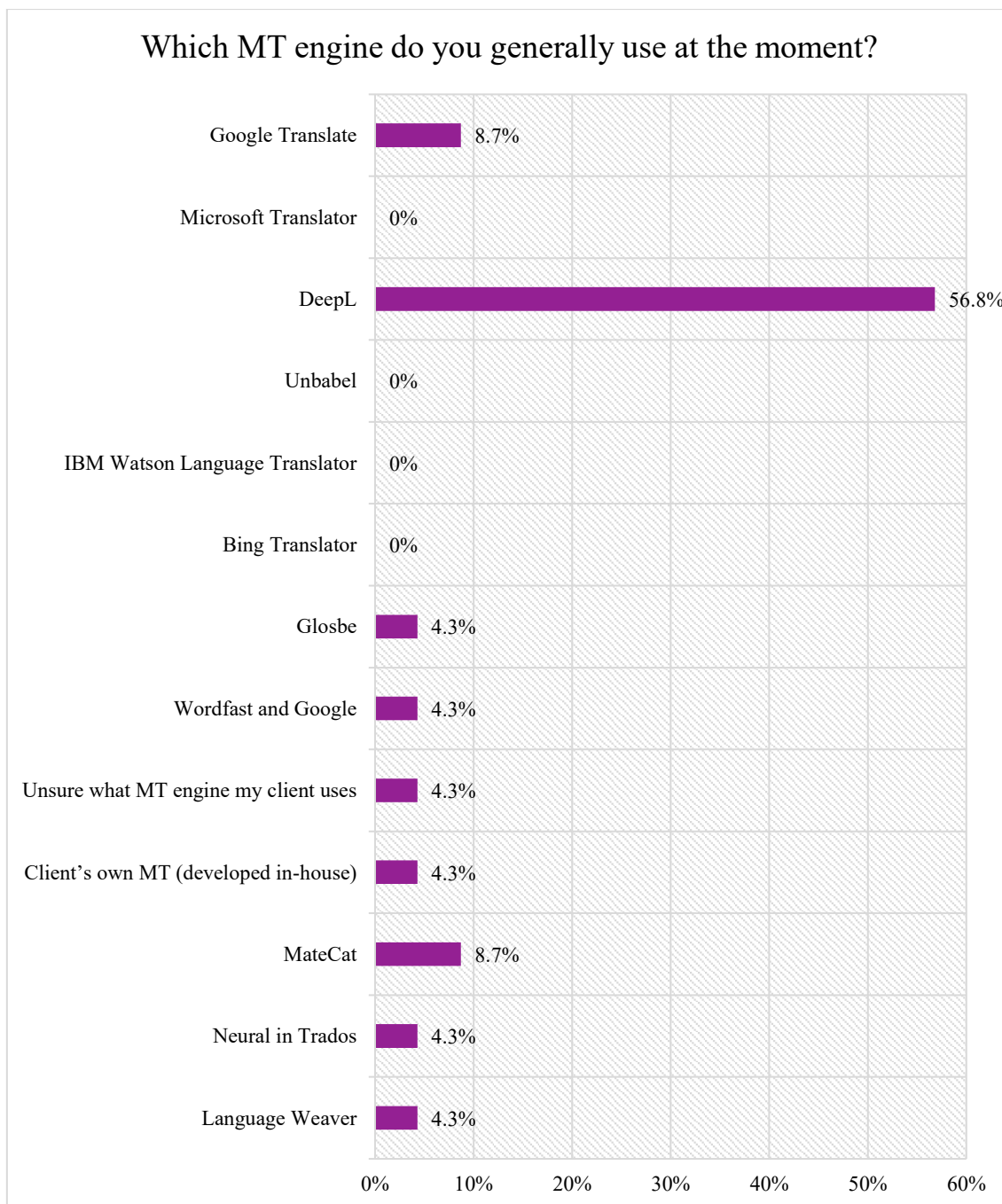


Figure 4.13.: Use of MT by professional translators

In this respect, the reasons for this preference as expressed by the participants are different and dependent the tool used for the translation process. While the reasons expressed for using CAT tools are mainly related to improved speed (35.5%) and quality (29%), also the majority motivations for using MT refer to its ability to speed up the translation process (48.4%).

The motivations for using MT are explained by a “time-related” approach. The automatic production of the final translation provides translators with the opportunity to “have an initial draft to work on, which is easier than starting off of a blank page”, a professional translator reports, since it only needs a subsequent revision by the human translator in order to confirm the final quality of the text to be delivered. Indeed, even if the human intervention is always requested in order to compensate for some linguistic and stylistic failures that the tool may produce, the performance of the translation in accordance with a potential draft is significantly faster since the principal task of translators in this case is exclusively the revision part. In addition, the presence of a pre-translated text facilitates the verification of the information translated as if a “double check” was performed to be sure not to “have [...] missed any elements or characters”. Therefore, although the human figure always operates in the translation process, the use of a text that has already been fully translated reduces the time required and simplifies the actions of the human translator.





*Figure 4.14.: MT engines used by professional translators for general contexts*

As was the case with CAT tools, users of MT expressed diverse responses as to the tool they use, which is their personal choice or the clients'. The majority of translators mainly use DeepL (56.8%), which is by far the most used, also as compared to Google Translate and MateCat (8.6% each), which embeds a MT engine. The remaining pooled engines recorded very low values (4.3%).

The question of reliability was also tested by collecting contrastive data from the

participants. The strong preference for DeepL can be justified by higher values assigned to the level of trust they have in that tool, as least as compared to others, indicating above all a sufficient evaluation (total of score from 6 to 10 out of 10: 35.5%). On the other hand, as it occurs with CAT tools, some engines, such as Unbabel and IBM Watson Language Translator, have never been used by the respondents for their own projects, which explains why data on their reliability are missing here and can't be compared with the other software.

Other interesting insights can be gained when considering the three main frequently recognized positive effects of this technology, i.e., improved quality, increased speed and terminological quality and consistency. As concerns speed (Figure 4.16.), ratings are mostly high (7 to 10), with 26.1% of participants assigning the maximum score (10). Interestingly, all reported to generally use DeepL. On the other hand, the other tools mostly achieved medium positive values (3 to 7). Therefore, as was the case with the CAT tools, MT is also considered in a good way in terms of speed, showing that professional translators appreciate and positively perceive this innovation for the industry.

While most professional translators expressed almost similar opinions about MT speeding up their work, translation quality and terminological consistency received very conflicting responses that are in some cases distributed in the low range for both questions.

Firstly, examining the data of quality improvement (Figure 4.15.), even if the highest response is a medium evaluation (grade 7: 26.1%), most of the respondents gave a bad evaluation (ratings from 1 to 5: 56.5%), thus claiming to not perceive a quality improvement in the output produced by the machine. Respondents mainly use the proposed translation as only a "first draft" and then modify and improve it through revision respecting the main translation standards required by the client and the industry. Hence translation carried out by a professional and qualified human translator meets a set of quality standards normally required, both by the industry and the customers, offering a complete and excellent service that cannot be carried out exclusively by MT.

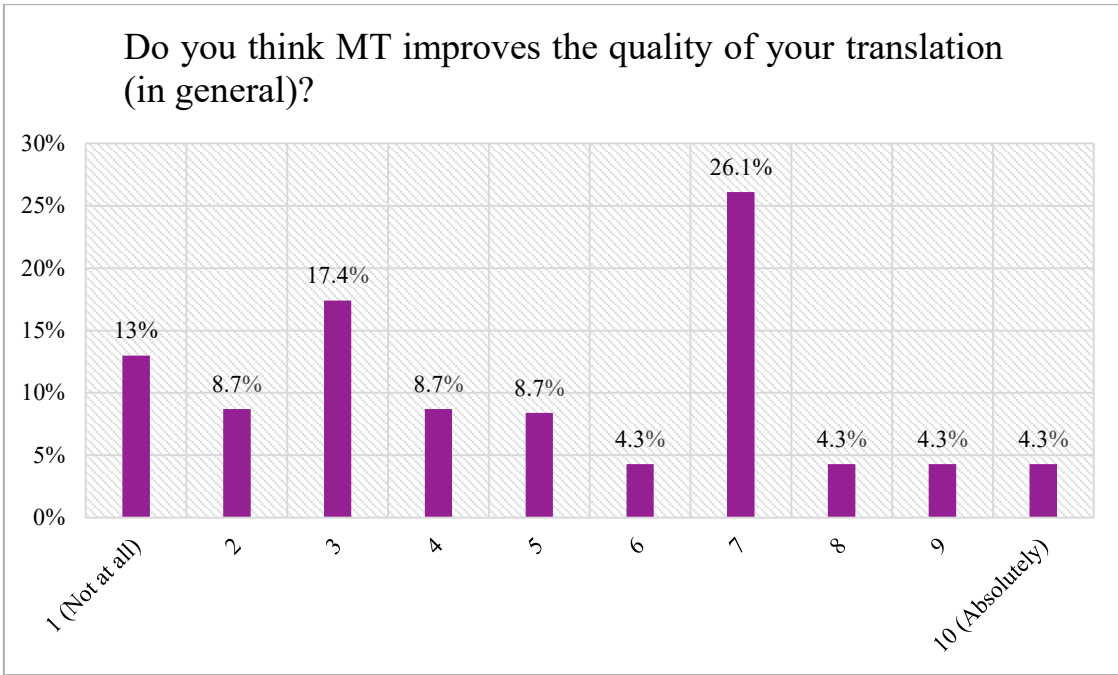


Figure 4.15.: Perceived improvement in the quality of MT for general translation

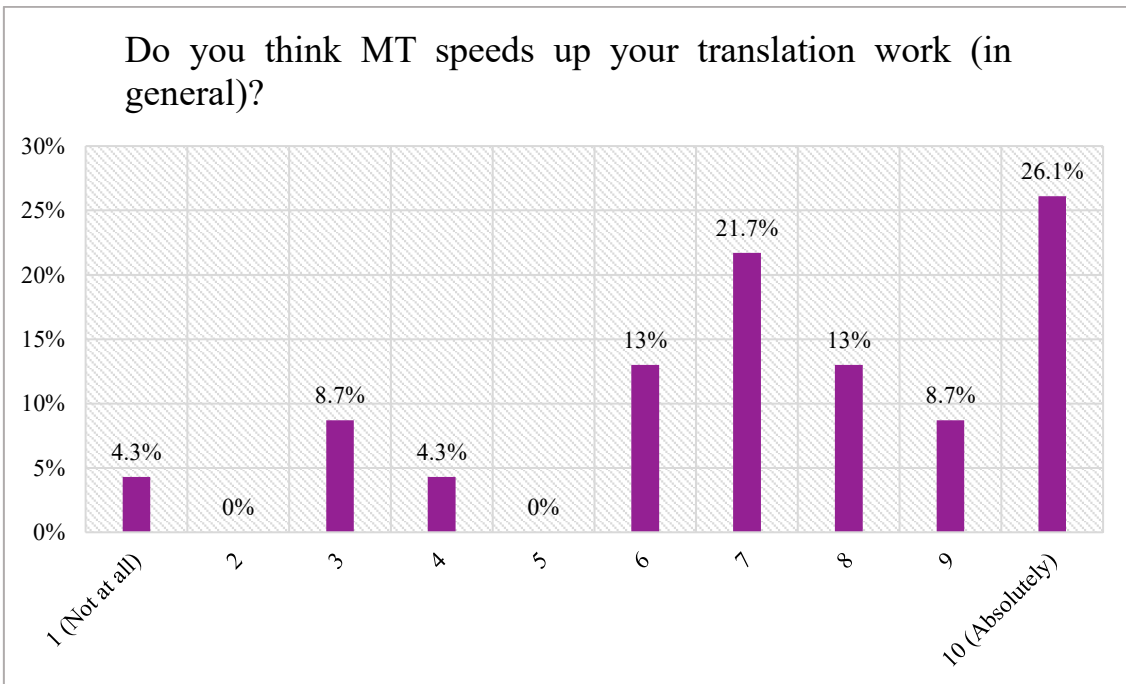
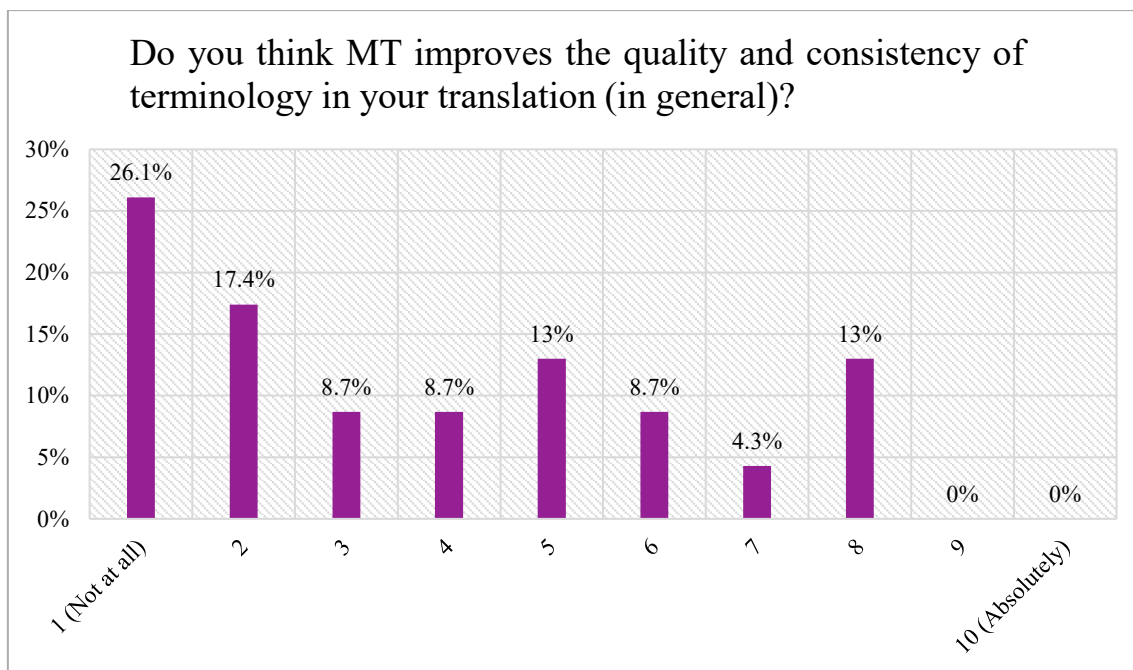


Figure 4.16.: Perceived improvement in speeding of the translation with MT for general translation



*Figure 4.17.: Perceived improvement in improving in quality and consistency of terminology with MT for general translation*

Some participants (16.2%) also complained about a too literal approach on which the tool is based that may create some translation issues for the final text. MT may generally produce “outputs in a literal, controlled language with poor vocabulary”, a professional translator states as explanation of the very low value assigned to the aspect of possible improvement of terminology. For example, in the case of terms that are complex and hence consist of several lexical items, as may be the case in special languages, the tool often does not consider the words as a single item, but individually. Therefore, the translation performed by MT is often flat, focused on using the correct equivalent and not on searching for particular or higher expressive or linguistic formulas by sometimes presenting simple and unresearched translations (Ahrenberg, 2005: p. 15). “The machine”, the same respondent continued, “is incapable to propose multiword expressions to replace verbs and always to the most usual meaning of verb; it is also incapable to interpret and easily distorts the meaning of sentence”. As a result, the output proposed of the MT is focused on the words and not on the general meaning or more stylistically adequate translations. For this reason, the quality of the final text seems to be poor.

Interestingly, MT receives by its users both positive and negative comments, showing at

the same time some very successful features and some downsides. Despite the greater reliability recognized to DeepL, the most used tool, the assessments in terms of quality and terminology are weak, reaching sometimes the lowest rating. Therefore, although this program is the most appreciated and preferred by the respondents, some disadvantages are actually still evident. Still, low quality and terminology issues are not typical of a given tool but can be found in all of them, even in those that offer a service that is considered and reputed to be better. As a result, overall quality and terminological consistency are two aspects that should be generally improved in the opinion of professional translators as its main users.

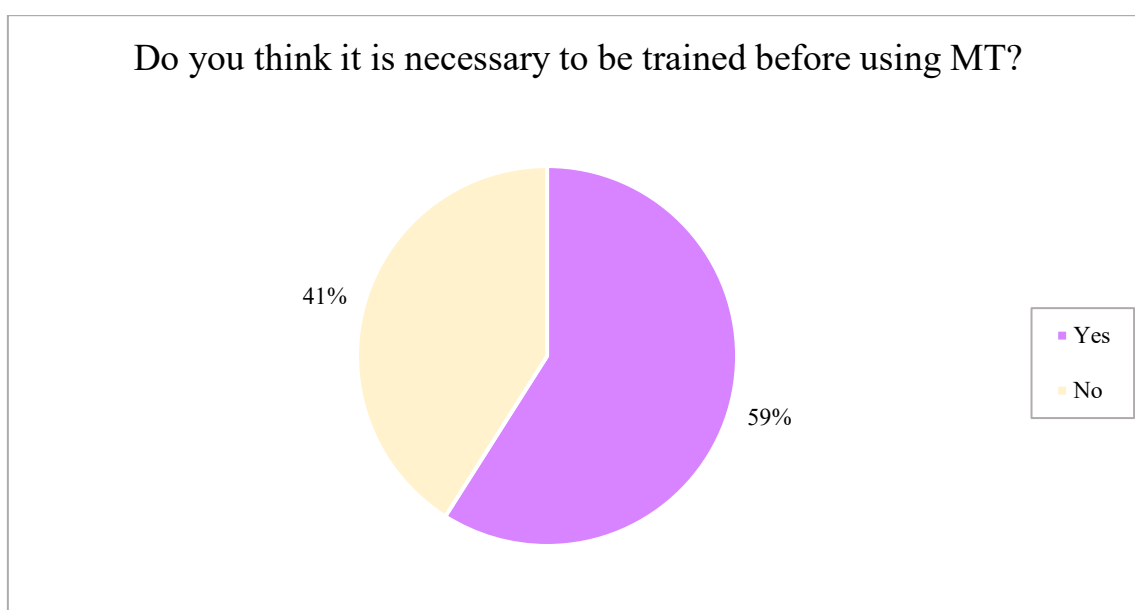


Figure 4.18.: Need to be trained in order to use MT

Most respondents also agreed that in order to maximize the possibilities and the potential benefits of MT, it might be useful for its users to be trained (Figure 4.12). The majority of participants believe that MT literacy is necessary (59%). Although some aspects introduced by this new technology in the translation process are not always efficient, proper, complete training on the use of this tools can lead to more reasoned choices and strategies. Indeed, translators still also emphasize in this question the aspect of speed as the central benefit of MT, considering that a correct training can determine to the best use of this feature. As one of its users indicates, MT actually requires a post-editing phase after its use since it has “errors in the output” that must be corrected and fixed. The focus,

therefore, is on the common and widespread errors or problems that the tool can generate by producing a translation that does not respect the professional standards: “it is important to know what kind of errors to look for; there is a danger of assuming everything is basically accurate and not comparing source and target closely enough”. A control that is not completely correct or accurate renders the post-editing phase useless and ineffective. Conversely, training in the use of MT can make the translator “not afraid of modifying MT output when necessary” since “it often gives incorrect translations and it should be used with a great care and trepidation”.

Instead, 41% of participants did not find this training is necessary or essential to become a professional. In this case, professional translators base this opinion indicating in first-hand experience as the principal way to efficiently use of MT. Indeed, several respondents argued that no specific education in this area is actually needed but that experience the key element for performing accurate post-editing. “You just need to have good non-MT translation experience to spot the corrections that have to be made on the MT text”, a frequent user states, emphasizing in this way that the revision phase carried out for this tool is not much different to general revision.

Overall, the general evaluation assigned to MT by the users of this tools in the survey appears to be positive, although comparing it with CAT tools there may be some aspects that should be improved. By comparing these findings to the previous study of CAT tools, the number of users is lower but the benefits that the introduction of such medium has brought have always been highlighted and considered significant for the translation process. The study carried out in this section analyzed the use of translation technologies in the general translation sector, without any distinction regarding the context of application. The next part of this chapter will be devoted to the introduction of these tools into legal translation, trying to highlight the presence or absence of possible differences in their use.

### **4.3. The use of CAT tools and MT for legal translation**

As discussed in section 4.1 of this chapter, the participants of this survey belong to different areas of specialization, each having known and shared laws which are conveyed

through the use of a special language and determine linguistic codes (Nagy, 2015, p. 264). Therefore, special language varies according to the particular domain of interest e.g., legal language.

Legal translation has also experienced the implementation of the new translation technologies . However, as it has often been reported in this dissertation, legal language is very complex and requires the use of appropriate models and linguistic solutions. Indeed, legal language is not universal but peculiar to a particular country or culture requiring the professional translator's effort to account for these systemic differences. Therefore, to produce a correct and complete textual production requires not only the linguistic knowledge of the language and the legal area but also the way in which a given language discusses and argues about the main characterizing notions of the area (Scott, 2017, p. 39).

The following analysis will focus specifically on the adoption of technology in legal translation, trying to discover and emphasize the most peculiar aspects of this new relationship compared to general use and how professional translators perceives this approach.

The data in Figure 4.19. show that only a small proportion of professional translators had never translated legal texts (16.1%). Hence most translators have experience in the legal field, despite this was the main area of specialization only for 29% of participants (see Figure 4.3.). This confirms that translators thus work in different fields, of which the legal one is quite common.

The data in Figure 4.19. suggest that each translator translated several kinds of legal texts. Precisely, less than the half of the participants (36%) stated that they have translated only one legal genre while the remaining part reported that they had translated multiple types of legal texts. The most translated typologies of text among are terms and conditions of service (61.3%) and contracts (54.8%). The other text genres are actually mainly distributed in the same way, and they never exceed the 50% of the participants, creating an important discrepancy between the genres just mentioned and the remaining text genres. In effect, certificates (35.5%), power of attorney (33.5%), insurance policies (22.6%), and last will and testament (22.6%) correspond to the next most agreed answers, but do not cover half of the participants.

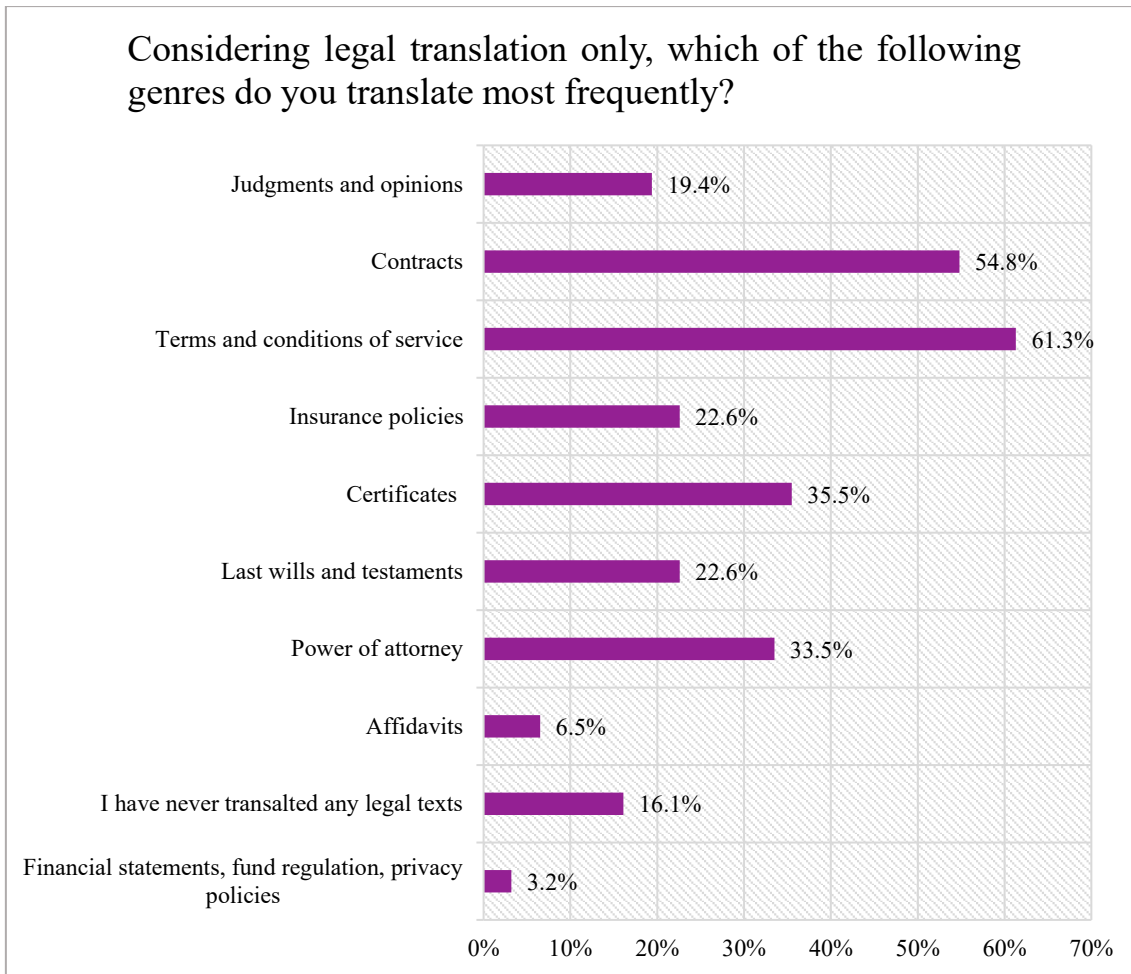


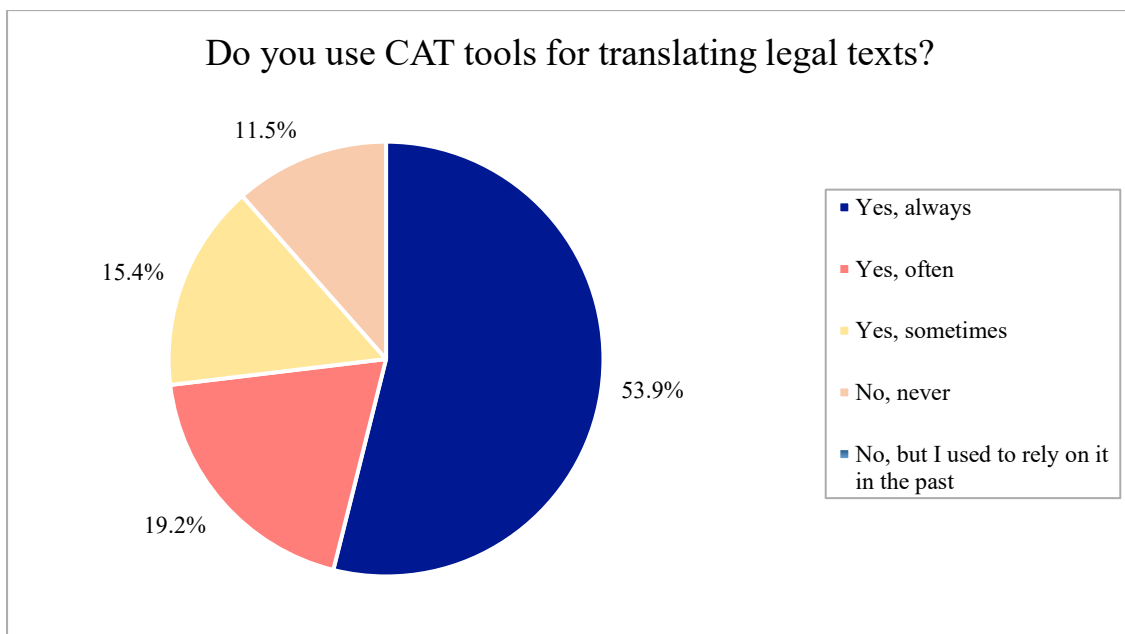
Figure 4.19.: Legal genres translated by professional translators

#### 4.3.1. Professional legal translators' use of and opinions about CAT tools

The data collected about the use of and opinions about CAT and MT for legal translation largely mirror those concerning the use of these tools in other domains. Yet, some aspects commented on by the participants differ with respect to the general use of these translation tools, emphasizing a different relationship and connection with respect to the technology in the area.

Firstly, the majority of professional translators declared to use CAT for the translation of legal texts (total of users: 88.5%), even if frequency is unevenly distributed (Always: 53.9%; Often:19.2%; Sometimes 15.4%). Therefore, even for legal translation most of the participants declare to translate by this assisted system.





*Figure 4.20.: Use of CAT tools by professional translation for legal translation*

Although most of the translators declares reasons that are very similar or may sometimes repeated to those previously indicated in the general field of translation process, professional legal translators in this context mainly appeal to the terminology part: the main factor that promotes the use of CAT tools in this field is the carefulness of the software with respect to terminological consistency. In order to respect the precise and mono-referential relationship that links the linguistic sign to the extra-subjective reality, it is important that the same exact term is selected and maintained in different texts but also in the same one.

An important aspect that has not been highlighted by professional translators in the general context, but which plays a role in this field concerns the text structure. A characteristic feature of legal genres is that their textual structure is often the same so that the reader immediately understands the situation that the information deals with by focusing only on the structure that such text has (Prieto Ramos, 2019: p. 34). As a result, the users of CAT tool also promote their use with regard to text structure since “several parts of some text are repetitive” and “the phrases are the same and used over and over”, different translators agree. Hence, CAT tools determine a consistency even from the structural point of view of legal translation.

On the other hand, a smaller fraction of professional translators (15.4%), reported not to use CAT for legal translation, a slightly higher figure as compared to translation in other

domains. In this case, as was precisely noted for the general context, the common characteristic of legal translators who do not want to use CAT tools is their age, as they are in the over-60 age group. Besides a personal preference for other tools such as the above-mentioned MS Word, the main concern of these users involves the possible errors that can be created with the use of technology thereby preferring a completely manual work. The desire of these translators reflects the “preference to rely on the own and personal accuracy rather than risk errors coming in and from the IT tools”, a translator states. The same reasoning was also applied by these respondents to the use of MT demonstrating a personal general negative feeling for translation technology in the legal field. The general feeling of negativity developed against technology by the older age group and the complexity of legal language probably distance these translators from the other participants.

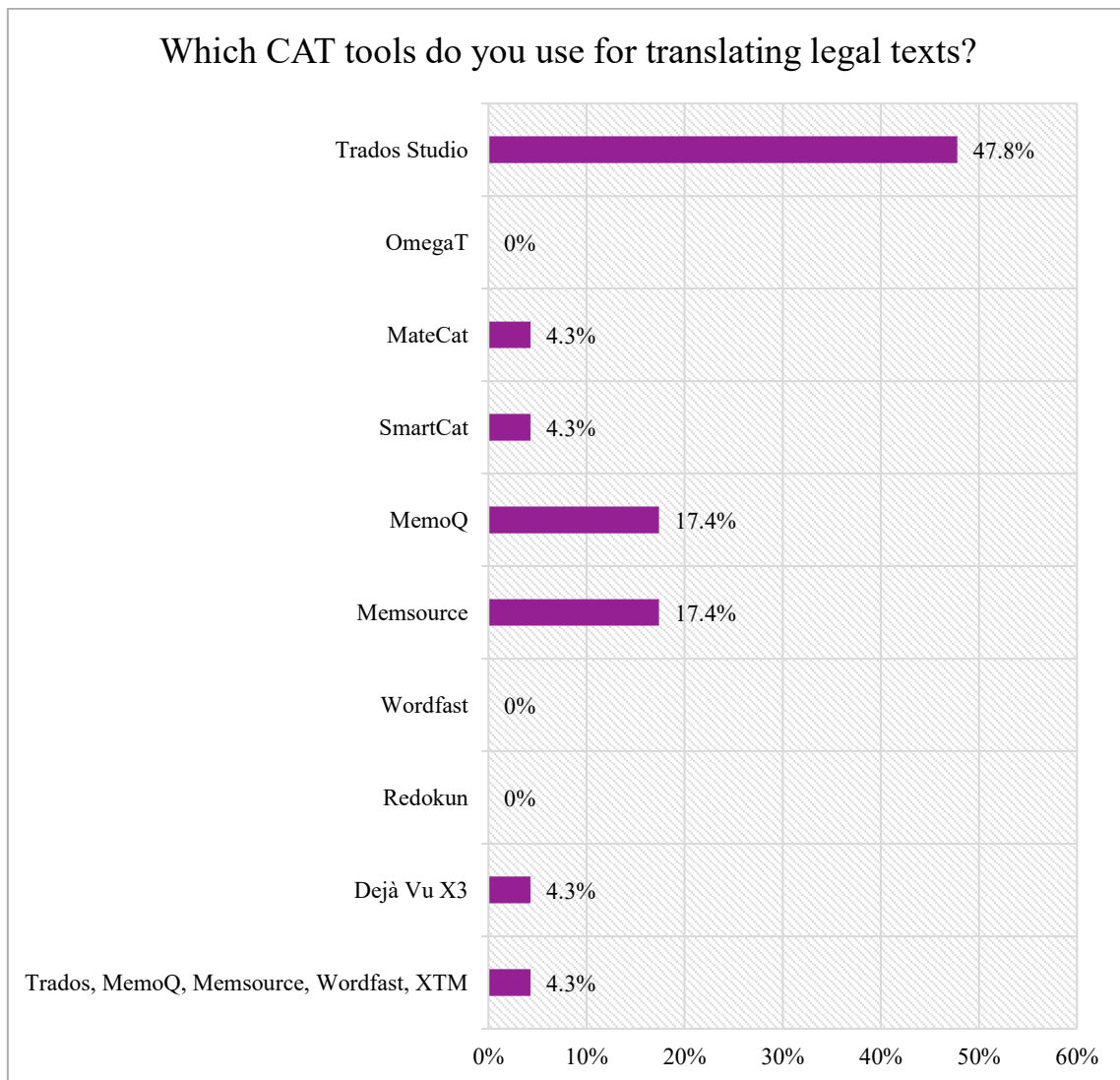


Figure 4.21.: Preference of use of CAT tools by professional translators for legal texts

Considering the specific tools that are used for legal translations, the number of systems selected by the respondents is lower than that of the tools used in other specialized contexts. In this case, as some users motivate, the use of computer assisted translation is often wanted or determined by the translation agencies or by the client, who demands a service carried out with a particular methodology also applying their own TMs. Therefore, the choice of the particular tool to be used in this specialized domain is determined by external factors and not by professional translators. The choice to implement one specific system over another is personal and specific to one person who evaluates some functions available by a tool as better or more efficient than the others are. For example, nowadays translation agencies take great advantage of cloud-based work, i.e., the collaborative work of multiple users on a single project, and this option may be more or less effective or simple in certain tools than in others. The choice can also be based on the type of file format supported by the CAT tool. In addition, also the popularity of a CAT tool affects the adoption of that system by favoring it over the others. In spite of this, Trados Studio (47. 8%) again is the most used among the participants.

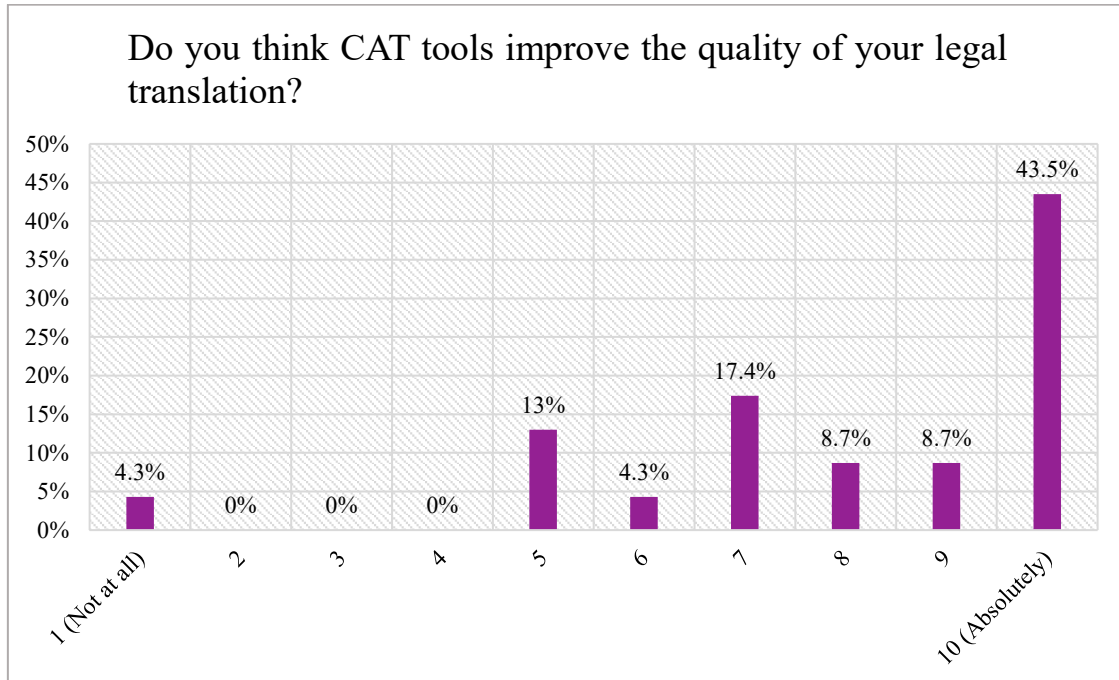


Figure 4.22.: Perceived improvement in the quality of CAT tools for legal translation

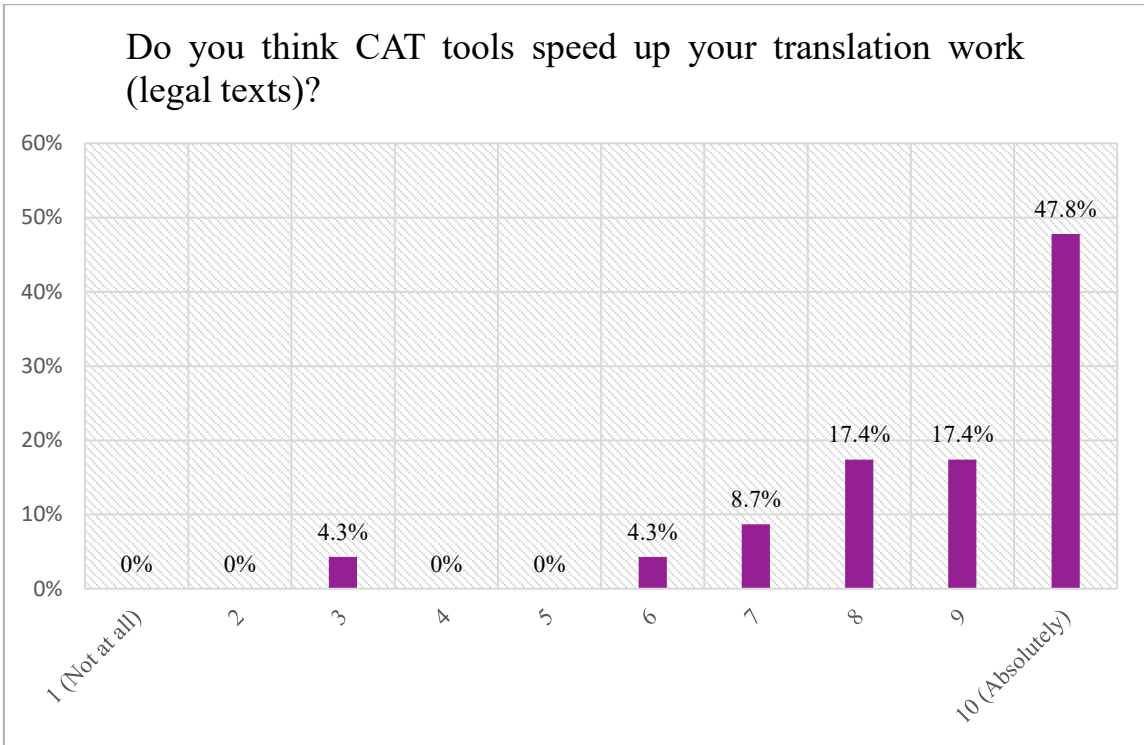


Figure 4.23.: Perceived improvement in speeding of the translation with CAT tools for legal translation

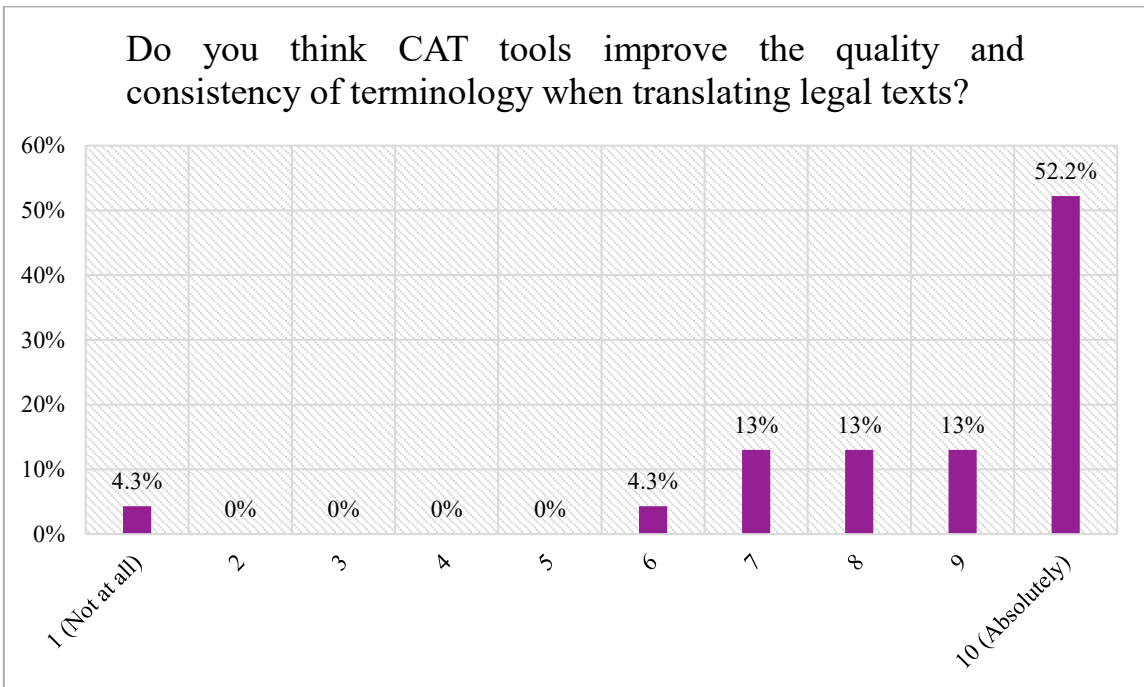


Figure 4.24.: Perceived improvement in improving in quality and consistency of legal terminology with CAT tools

When also analyzing the ratings that professional translators assign to CAT in terms of overall quality of the TT, increased speed and terminological quality and consistency, the opinion of legal translators is aligned with that of professionals specialized in other fields. Indeed, as the findings have shown for specialized translation in general (Figure 4.22., 4.23., 4.24.), the responses are distributed in the middle to high range highlighting a general positive opinion. In all three questions, the majority of responses cluster around the highest values, with overall quality, speed, and consistency of terminology having the highest rating (10) for, respectively, quality (43.5%), speed (47.8%), and terminology (52.2%) of participants.

Still, a small portion (4.3%) of translators did not find these aspects as strongly positive. In this case, the same participant gave the lowest rating for both improvements in quality and speed, hence dissociating from a positive consideration of these features. This position seems however associated to personal negative experience that the individual had with translation technologies as he/she claimed he/she was “forced to use it: this is not my choice”. According to this participant, “the adoption of translation technologies does not improve or determine to put you in a better and more professional position”. Therefore, these new translation tools are not considered to be essential or exclusive to the translation process but instead is “the user experience that makes the service better”.

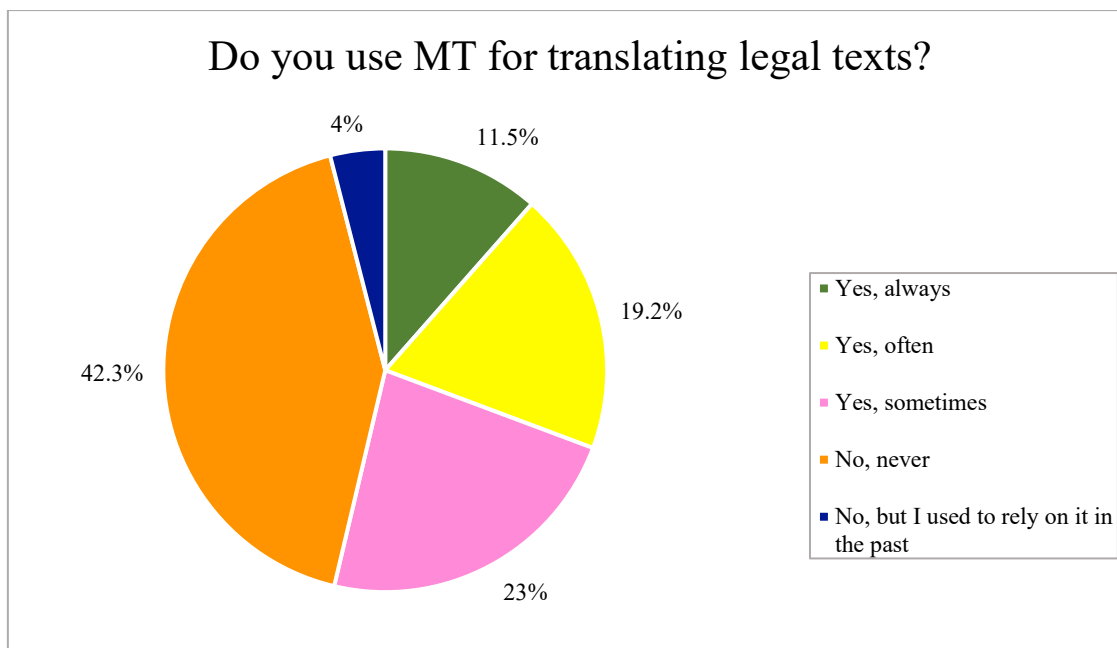
The implementation of CAT tools in legal translation was also investigated with reference to their use for specific textual genres. In general, the frequency with which a CAT tool is used for certain legal texts is directly proportional to the general trust of users in this tool. Therefore, the frequency of use coincides with or is very similar to the efficiency that translators have indicated for individual tools. Nevertheless, one professional translator emphasizes that the positive effect of the application of translation technologies does not depend exclusively on the tool, but also on the human user: “CAT tools do not translate but it is the people who do this”.

Finally, the use of CAT tools in the legal translation context is based on a combination of considerations reported by professional translators that are in many cases the same evaluations they had indicated with reference to specialized translation in general. The introduction of this new system in the specialized area just analyzed collects predominantly positive consequences as its users have experienced a general improvement in the translation process. The differences in evaluation between the two

fields of application are minimal, valuing some precise aspects over others, e.g., the prevalent use of Trados RWS and the greater importance given to the improvement made by this tool by its users. In any case, it is important to emphasize that the majority of translators also consider the introduction of CAT tools to be fundamental to the translation process, highlighting how these tools have positively revolutionized the way of translating.

#### ***4.3.2. Professional legal translators' use of and opinions about MT***

The first findings analyzed concern the use and frequency with which MT is used by legal translators. When comparing the data concerning specialized translation in general with the legal context, a more negative tendency can be observed in legal translators since a considerable proportion of respondents declared that they had never used MT to translate legal documents (42.3%). The main reason given by these non-users is related to the principle of confidentiality that MT would not meet. As already mentioned for specialized translation, the translations performed with MT are in any case saved in the system and become the personal archive for the program from which future translations are derived. Legal language often concerns personal, confidential, and sensitive information; hence, the client requires their protection on the part of the translator. As a participant states, “legal content is the no. 1 content that should not be processed with MT: even if a client does not require a confidentiality agreement for the translation of any content, all content committed to a third party (like translator) should be handled with secrecy”. To preserve this confidentiality, MT does not prove to be the appropriate tool and sometimes “its use is prohibited by request of the client”.



*Figure 4.25.: Use of MT by professional translation for legal translation*

Furthermore, the non-use of MT is determined by the feeling of mistrust expressed by freelancers and translation agencies based on the low accuracy and precision already mentioned for specialized translation. As explained in the section 4.2.2., MT often produces too literal translations without considering the context. “Legal texts”, as a respondent claimed, “require precision and attention, which MT does not always provide in practice”. The actual complexity of this language, in terms of terminology, structure, and meaning, necessitates a detailed analysis and study on the part of the professional translator because an incorrect translation could convey a message that is very different from the original, even having consequences from a legal point of view. The importance of terms and the various expressions in this area is also crucial because words themselves have “power” (Singh, 2019, p. 89) and this power determinates real consequences with respect to a specific action. Literal translation also the reason why some respondents stopped using MT for legal translation (4%), claiming this issue as an obstacle for producing the target text: “I used to use it, but it produced translations which were too literal and do not follow the legal terminology”.

Despite this, a large section of respondents state that they use this tool, although occasionally (Sometimes: 23%), compared to the other data regarding the frequency of use (Always: 11.5%; Often: 19.2%). As for specialized translation other than legal, the element that motivates these users to actually apply MT is that it saves time and increases

overall productivity. In this respect, different users affirm that, “even if sometimes technical terms are not correct, the adoption of this tools is helpful to start off a rough draft rather than a blank page”, as also pointed out for specialized translation in other domains. In this case, the focus of the performance is not on the translation but the post-editing process. The subsequent human intervention on an already produced text combines two important factors for the translation process: the speed and the quality provided by the human knowledge. For this reason, in this situation the use of MT is significant since it is the tool which provides the initial draft.

As was the case with the study of CAT tools in the legal context, the responses regarding MT found a restriction and limitation in the type of use, showing a tendency of the various users toward a definite type of tool. Despite this, even for legal translation, DeepL remains the most used tool (56.5%) proving the presence of a general preference in the use of this tool. Comparing DeepL with the other data obtained, for example Google Translate (14.4%) and the MT of MateCat (14.2%), the gap presented is important, showing that DeepL also for legal translation the most favored system among the users.

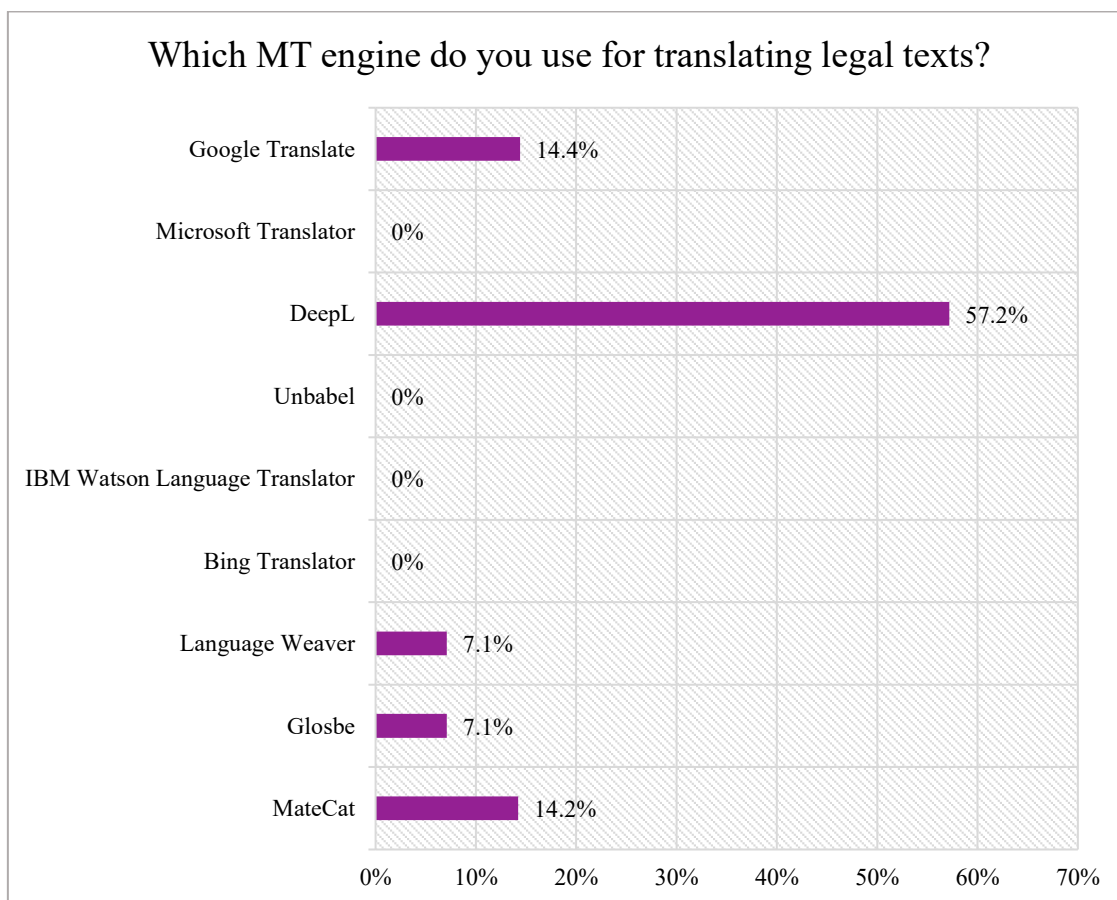


Figure 4.26.: Preference of use of MT by professional translators for legal texts



As for specialized translation, also in the legal field a faster translation process is main reasons to use MT (Figure 4.28.), as agreed by the majority of respondents who gave positive ratings (total score from 6 to 10 out of 10: 78.6%). In addition, the majority of respondents stated a rating of 10 (28.6%) and of 7 (28.6%), which represent the most significant ratings indicated. The time required for the service is less.

On the other hand, the general evaluation with respect to improvements in quality and terminology led to different considerations. Also in the legal context, the opinions of MT users are not in line with those concerning speed. First of all, with regard to the quality factor, although the majority of the respondents assigned a positive rating (total from grade 6 to 10: 64.2%), other users developed very different opinions because 35.7% of them instead assigned a negative assessment (rating 1 to 3) which is quite significant. The users having a negative opinion also assigned the same negative evaluation with reference to specialized translation. These users argue that MT very often produces incorrect translations involving linguistic, stylistic, and grammatical problems like “gender inconsistency problems”, as pointed out by a translator from English to Spanish. In this case, the presence of strong and prevalent errors results in an additional difficulty for the professional translator: although the revision phase is almost always performed, the attention and the amount of intervention required by the human individual is greater and excessive in the translation process.

Secondly, focusing on terminology, most of users highlight a poor or often non-existent improvements in this area (rating 1: 21.3%), supporting the possible translation problems already indicated by non-users. In effect, in addition to problems of correct translation at the grammatical level, the problem of the potential literal translations is still reported, pointing out that terms are often considered as interchangeable by the program and the context is not considered for the translation.

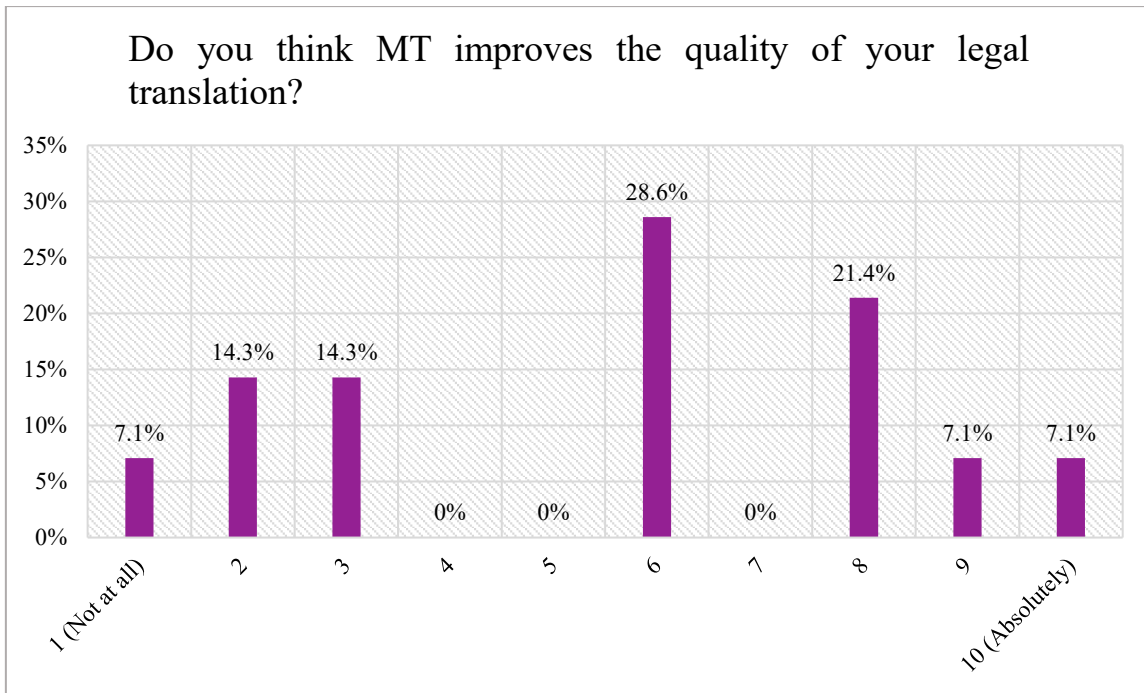


Figure 4.27.: Perceived improvement in the quality of MT for legal translation

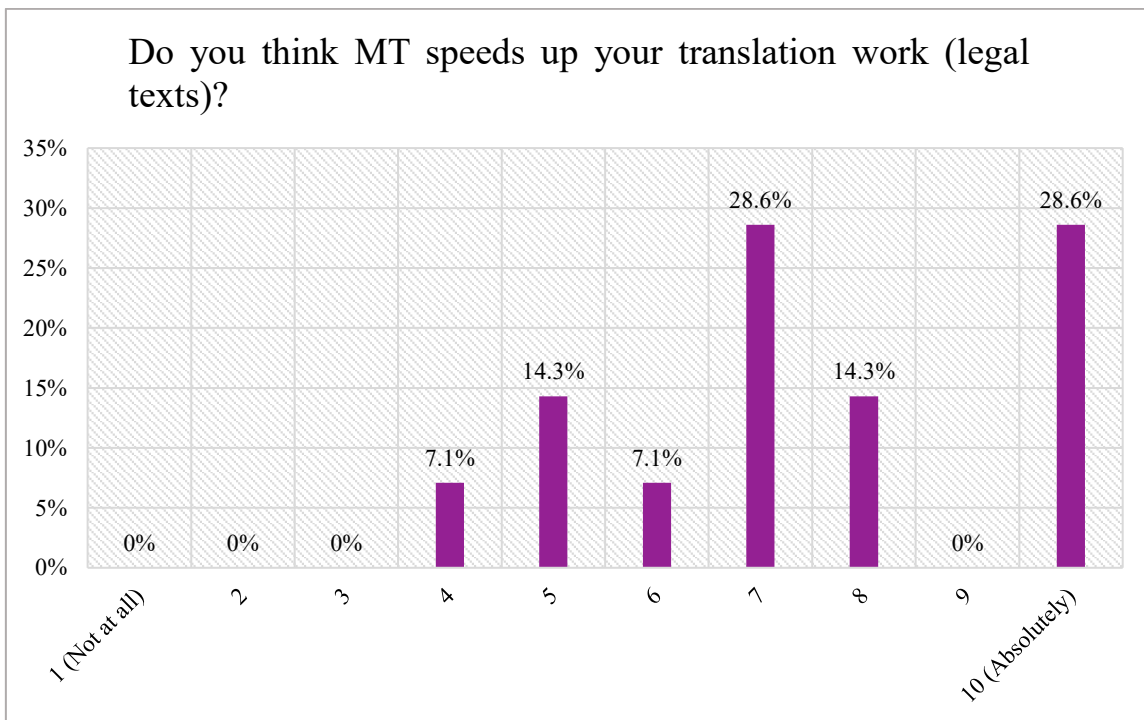


Figure 4.28.: Perceived improvement in speeding of the translation with MT for legal translation

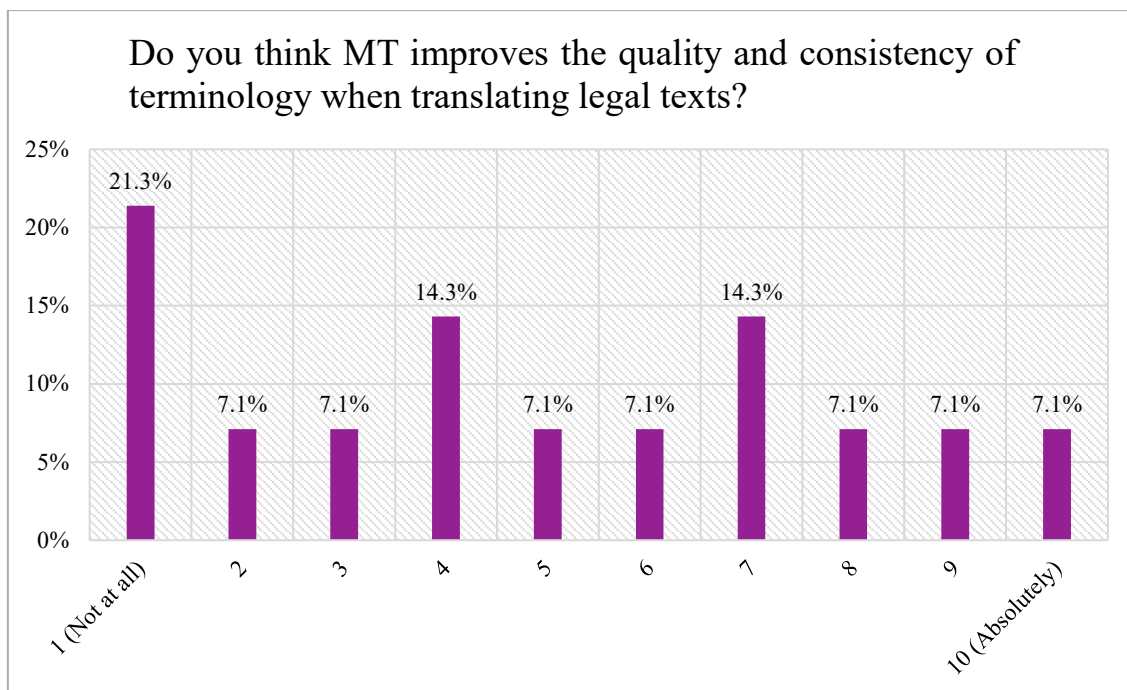


Figure 4.29.: Perceived improvement in improving in quality and consistency of legal terminology with MT

In spite of this, as far as terminology is concerned, the considerations expressed by professional translators are mixed, i.e., they do not show a shared opinion but a personal and individual view. As the data in Figure 4.29. reveal, the evaluations made by users do not focus on a generally positive or negative assessment but are distributed quite uniformly. In effect, most of the users who emphasize a positive evaluation for this feature also stated that the use of machine translation in the legal context also resulted in terminology help. Indeed, these users state that the use of MT is also intended to help with the translation of technical terms or standard phraseology, which can sometimes be an excellent and effective initial suggestion for the translator, ascertain phrases or repeated constructions may have been saved and correctly stored by these engines. Therefore, compared to the general context, legal translation through MT is not perceived in the same way and above all in a strongly negative manner by its users. Some of them consider this tool for the legal context to be very good or effective in that the machine goes on to suggest the translator correct legal equivalent terms.

As was the case in the analysis of the CAT tools, the frequency of use of MT was indicated with respect to each legal textual genre, demonstrating a repeated consistency in the participants' thinking.

As for computer-assisted specialized translation, also in the legal field the frequency of use of MT was indicated with respect to the legal textual genres with which it is used, demonstrating a repeated consistency in the participants' consideration. The level of use of MT for the indicated genres is equivalent to the general frequency of use of MT in the legal context. Indeed, the ratings assigned to the frequency of use of individual legal texts are directly proportional to their general adoption of MT in the translation process, indicating that the use of the tool for the translation of these texts is linked to their normal translation habit.

In conclusion, MT applied to the context of legal translation only partly shares the same tendencies observed for specialized translation. Compared to the general context of translation, the number of total users of MT for legal translation purposes is smaller, resulting in a lower number of evaluations and considerations obtained. In the legal context the use of MT is viewed positively but not always optimally for this specific translated context. The presence of some repeated errors in the translation and the influence determined by some external factors, e.g., literal translation and client's requirement, sometimes make the opinion regarding this medium not completely positive.

## *Conclusion*

The data collected from the survey developed within this study described the current relationship between human translator and translation technology. The questions submitted to professionals in the translation field were targeted and focused on their role and their preferences or opinions regarding the use of CAT tools and MT, with reference to both specialized translation in general and legal translation. In this way, the analysis of the data obtained determines the construction of a clear and precise representation of a sector in which the use of technology has today become an essential and fundamental part.

Considering this survey relevant for the construction of a general reflection, it is the main focus of this research since the direct participation of professional translators mainly contributed to the achievement of the previously stated objectives. Indeed, in addition to the research papers and books consulted and so the description of some relevant aspects in this field, the survey determined the possibility of being able to obtain a series of specific answers related to the area of analysis considered. For instance, the collection of opinions and thoughts from professional translators made it possible both to detect their judgement on specific functions introduced by the new translation technologies but also to consider these aspects in a more specific way, being able to compare or evaluate the various aspects investigated in a different way.

The responses obtained have underlined and emphasized the importance of the innovation that technology has generated in the translation process. The general comments expressed in relation to CAT tools and MT were mainly positive, highlighting the improvements in quality, speed, and terminological consistency resulting from the introduction of technology, concerning both general and legal use. Although the opinion of the users of these services was not always the same but varied with respect to the tool and context, on average the respondents recognize and appreciate the main consequences these tools have generated, considering them fundamental to the translation process.

A significant preference on the part of the participants to adopt CAT tools over MT for

both specialized and legal translation was observed, even though in some cases the use of a given translation technology may be imposed by clients or translation agencies. Clients' demands, already indicated in the previous chapters, and also translation agencies' strategies determine the use of a specific translation technology itself, placing limits on the translator with respect to the translation process. Therefore, in this situation the professional translator must accomplish the demands imposed to them, basing the translation process on these necessities and preferences.

Although the respondents pointed out some negative aspects with respect to translation technology, such as technical difficulties in using CATs and an overly literal translation approach carried out by MT, the general assessment of these tools in the translation process shows an appreciation by its users in both the general and legal translation contexts. Even if the translation approach determined by the two tools differs, its application could be perfect or significant in relation to the given translation project, taking advantages from them, e.g., the reference to previous storage translations or a draft on which working on.

The use of translation technology in the legal sphere did not differ significantly from its use in the general specialized translation context. Although not all survey participants are involved in legal translation, legal translators indicated positive feedback on these technologies. CAT tools and MT, although used with different frequencies and for different purposes, were both also positively assessed by legal professionals, reporting that their introduction is revolutionary and essential

A limitation with respect to the developed survey is the poor data collection regarding some particular aspects, especially with reference to the findings about the comparison between different software. Indeed, most of the respondents stated that they normally use the same tool, i.e., Trados RWS for CAT tools and DeepL for MT, also in the legal context. Hence, not much data was obtained concerning the functioning or evaluation of certain tools, which were almost totally excluded from the respondents' considerations. Therefore, the data reported in some cases is strictly related to a specific software, describing the users' preference and opinion only regarding some determine translation technology, hence the considerations with respect to the technology used is not varied but limited.

This analysis also creates the foundations for future research and investigations that may

analyze, among other things, the use and effectiveness of translation technologies in other domains (e.g., economics, physics, medicine), in order to observe similar or different trends as compared to legal translation, which may differ from other translation-specific contexts. A further analysis of these tools can be carried out in relation to the concept of reliability on the part of professional translators. In the previous chapters, it was emphasized that professional translators also use certain translation technologies on the basis of their feeling of trust toward them. In this case, it would be interesting to investigate which characteristics and elements determine their trust, in order to make these tools more acceptable for use by these users.

Translation technologies have led to the construction of a completely new and innovative translation process in which the central figure is always held by professional translator. As the main users of both CAT tools and MT engines, professional translators are the main stakeholders, and their opinions and suggestion should be the starting point to work on future innovation.

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## ***Riassunto in italiano***

Nell'ultimo secolo, il processo di traduzione ha affrontato una serie di cambiamenti, i quali hanno determinato la creazione di nuove caratteristiche e modifiche che hanno condizionato la formazione di un processo fortemente diverso dal passato. In effetti, il processo di traduzione, ma anche le abitudini e le strategie adottate dai traduttori professionisti, sono state condizionate da molteplici fattori di natura differente, creando delle nuove rappresentazioni dell'industria di traduzione. Sebbene l'obiettivo principale di questo processo sia sempre rimasto lo stesso, il modo in cui viene raggiunto ha assunto con il passare del tempo delle forme completamente opposte rispetto al passato, diventando sempre più innovativo e moderno in relazione alla società che viene analizzata.

Considerando nello specifico i caratteri esterni che hanno influenzato negli anni il processo di traduzione, l'introduzione ed il successivo sviluppo della tecnologia nel presente settore hanno modellato delle nuove strategie da applicare, le quali hanno avuto dei particolari effetti sia sulla prestazione del traduttore umano sia sul modo in cui la traduzione finale viene portata a suo compimento. Infatti, il risultato dell'innovazione tecnologica ha determinato l'inserimento in questa area di nuovi apparecchi informatici, come i computer, ma anche nuovi software i quali sono orientati esclusivamente alla traduzione, come i CAT tools e MT, che hanno determinato la formazione di un nuovo legame tra uomo e tecnologia. L'uso della tecnologia in questo campo ha determinato che venisse influenzato sia dal punto di vista dei mezzi sia dal procedimento che deve essere attuato. Perciò, la tecnologia ha di conseguenza ampliato le necessità richieste per il processo di traduzione considerandolo come un processo basato su un concetto di collaborazione tra uomo e macchina, aggiungendo ad una ottima preparazione linguistica altre caratteristiche di natura tecnologica che sono esterne ma agiscono in maniera diretta sul lavoro umano e sulla traduzione finale prodotta.

Le scoperte e le innovazioni in questo settore hanno fornito ai suoi utenti nuove e significative proprietà e funzioni che si sono rivelate del tutto efficaci e utili rispetto alle



prestazioni richieste, generando nel processo di traduzione lo sviluppo di strategie e azioni innovative da imparare ed usare. I miglioramenti e le innovazioni apportate sono molto evidenti, rendendo oggi la tecnologia strettamente legata all'industria di traduzione e determinando in modo quasi obbligatorio l'uso per la traduzione dei vari testi. Comunque, anche se le innovazioni implementate possono essere classificate positivamente o negativamente dai suoi utenti, gli sviluppi hanno generato la creazione di considerazioni e metodi nuovi rispetto a come lo stesso processo di traduzione doveva essere realizzato, classificando di conseguenza l'applicazione della tecnologia nel settore della traduzione come fondamentale ed essenziale.

Comunque, il momento di grande rivoluzione con rispetto al rapporto tra tecnologia e traduzione è stato segnato dall'invenzione e dalla successiva diffusione dei CAT tools e MT, precedentemente citati come novità in ambito delle tecnologie di traduzione. Sebbene questi programmi possano essere diversi, l'elemento che li accomuna riflette la significativa innovazione che hanno generato nel settore della traduzione. Con l'avvento di queste tecnologie specifiche, si è compiuta un'importante svolta, ovvero il passaggio a una traduzione completamente tecnologica. Questi sistemi hanno permesso ai traduttori professionisti di essere supportati o di tradurre completamente per loro testi interi o delle loro precise parti solo grazie a questi strumenti, trasformando la traduzione in un processo completamente tecnologico e computerizzato.

Nonostante le differenze che questi strumenti possono presentare rispetto al processo di traduzione in cui vengono applicati, il loro utilizzo ha completamente rivoluzionato l'intero settore della traduzione, rendendo possibile godere di importanti benefici generati, i quali possono essere riscontrati in ogni contesto di studio e linguistico in cui sono applicati. Infatti, la loro introduzione è avvenuta in modo univoco nel processo di traduzione, senza alcuna distinzione sulla base alle combinazioni linguistiche, alle culture coinvolte o ai contesti di traduzione determinati da un preciso progetto di traduzione. Pertanto, queste tecnologie di traduzione oggi vengono applicate per ogni tipo di contesto traduttivo, senza presentare differenze in base alla situazione descritta, venendo utilizzati sia per contesti di traduzione generale sia per contesti più specializzati, in cui il livello linguistico e di conoscenze richiesto è molto preciso e curato, richiedono l'uso ed il mantenimento di scelte terminologiche, sintattiche e strutturali che sono pertinenti allo specifico campo di studio descritto.

L'introduzione di nuove tecnologie di traduzione e la successiva imposizione nel loro utilizzo ha determinato che il traduttore professionista debba applicare quotidianamente questi strumenti, sfruttando tutti i loro vantaggi e i possibili svantaggi che hanno generato. Infatti, l'uso di questi strumenti nel processo di traduzione è considerato una fase nuova in questo settore, poiché le strategie per il successo della traduzione sono cambiate e la tecnologia ha ricoperto un nuovo ruolo in questo processo. Di conseguenza, il loro utilizzo ha rivoluzionato le normali abitudini di traduzione spingendo alla costruzione di un processo basato sulla relazione tra uomo e macchina.

Tuttavia, ogni traduttore professionista ha sviluppato un rapporto proprio ed individuale con la tecnologia, producendo riflessioni personali sul loro utilizzo, le quali possono essere condivise anche da altri utenti del settore. Di conseguenza, il rapporto uomo-tecnologia è plasmato e determinato da considerazioni e peculiarità che sono personali di una precisa persona, sia in termini di conoscenza dell'argomento specifico, sia con rispetto all'utilizzo di una determinata funzione, ma anche per quanto riguarda le preferenze personali nel loro utilizzo. Pertanto, un'analisi mirata all'individuo è obbligatoria, necessaria e richiesta in questa specifica situazione, in quanto non tutti le considerazioni e le osservazioni riguardanti questo rapporto possono essere condivise tra i professionisti, ma possono anche essere molto personali e individuali per un specifico traduttore professionista.

Con rispetto all'introduzione della tecnologia in questo settore ed al suo sviluppo nel tempo, il presente elaborato si occupa di costruire un'analisi e curata descrizione dell'odierno settore di traduzione sottolineando appunto la relazione tra il traduttore professionista e la tecnologia. Infatti, lo studio eseguito si basa su una descrizione dei CAT tools e MT, soffermandosi principalmente sul loro uso nel processo di traduzione, delle funzioni che possiedono e di come questi elementi hanno influenzato il contesto di traduzione negli anni.

Per effettuare ciò, è stato costruito un sondaggio, il quale ha permesso di poter esaminare questa novità con rispetto agli sviluppi tecnologici secondo il pensiero dei suoi principali utilizzatori, ovvero i traduttori professionisti. Infatti, le domande su cui tale sondaggio si basa sono state costruite ed organizzate esclusivamente con lo scopo di raccogliere e studiare le opinioni dei traduttori professionisti con rispetto all'introduzione di questi programmi nel processo di traduzione. Il presente studio non è stato effettuato

considerando le singole funzioni che questi strumenti mettono a disposizione ma focalizzandosi sul sentimento generale di questa relazione. Essendo i traduttori professionisti i principali utilizzatori di questi strumenti, la richiesta unica e fondamentale del sondaggio ai suoi rispondenti era esclusivamente quella di ricoprire questa posizione lavorativa.

Inoltre, l'analisi del contesto tecnologico in questa area è stata effettuata senza considerare esclusivamente una comparazione tra i due strumenti ma considerandoli anche nel contesto in cui vengono utilizzati. Lo studio proposto infatti tiene in considerazione la loro applicazione per progetti di tradizione in ambito generale ma soffermandosi anche sul contesto giuridico. In questo caso, si vuole evidenziare la presenza di elementi caratterizzati o dei possibili cambiamenti sul rapporto traduttore-tecnologia anche con rispetto all'area per cui vengono applicati. Essendo il contesto legale un ambito specializzato a livello linguistico, il traduttore è tenuto a rispettare una serie regole linguistiche ed espressive, che sono dettate dall'ambito di studi umano ma anche dalla lingua o cultura in questione. In effetti, dato che il linguaggio legale è usato da e tra esperti nel settore, in aggiunta a delle precise conoscenze legali viene richiesto anche il rispetto di tecniche proprie e uniche di scrittura, spesso non utilizzate in ambito di comunicazione quotidiano.

La scelta di considerare e tenere in considerazione questi due determinati contesti di comunicazione, soprattutto con riferimento al contesto giuridico, è stata dettata da scelte e motivazioni perlopiù personali. Con riferimento al percorso accademico da me durante la laurea Magistrale e dall'occupazione lavorativa che attualmente ricopro, il mondo legale è un settore con cui mi ritrovo e mi sono ritrovata molto spesso ad interfacciarmi. Conoscendo le particolarità di questo ambito di conoscenza e le regole precise di cui è caratterizzato è stato ritenuto interessante approfondire questo aspetto, verificando la presenza di eventuali aspetti particolari nell'uso della tecnologia di traduzione in questo settore o delle situazioni analoghe con il loro utilizzo a livello generale.

Sulla base di questi aspetti principali, il presente studio è stato strutturato sull'analisi del processo di traduzione applicato alla tecnologia che ha influenzato questo settore, utilizzando i dati ottenuti dal presente sondaggio come elemento di partenza per eventuali riflessioni e commenti. In effetti, a seguito di un'introduzione generale degli strumenti di traduzione e della loro applicazione nel contesto giuridico, la parte principale di questo

elaborato è concentrata sulle riflessioni dei traduttori professionisti in merito all'applicazione dei CAT tools e MT, analizzando e sintetizzando i risultati e le considerazioni più rilevanti ottenute dal sondaggio. Grazie all'utilizzo di grafici e tabelle che riportano tali dati, viene fornita un'analisi del rapporto e delle principali valutazioni degli intervistati rispetto a queste tecnologie in ambito traduttivo, cercando di evidenziare o sottolineare alcune particolari abitudini o atteggiamenti che possono essere o meno condivisi dai partecipanti rispetto al tipo di strumento dichiarato di utilizzo.

Per concludere, il processo di traduzione e le sue caratteristiche sono state modificate a seguito dell'introduzione dei CAT tools e MT in questo settore, dando origine e modellando quello che è l'attuale contesto dell'industria della traduzione e le tecniche che i traduttori professionisti decidono di applicare. L'avvento della tecnologia e i successivi miglioramenti e invenzioni nel settore hanno contribuito a queste modifiche, generando un settore completamente nuovo, moderno e diverso rispetto al passato, caratterizzato dall'implementazione di tecnologie più sofisticate che hanno facilitato e migliorato lo stesso servizio offerto al cliente. L'implementazione di queste tecnologie di traduzione ha contribuito alla creazione di nuovi concetti, metodi e caratteristiche costruendo moderni sistemi di traduzione. Ovviamente, le considerazioni e le opinioni dei professionisti del settore evidenziate ed analizzate nel presente studio sono il risultato di personali esperienze ed opinioni che non sono uniche nel settore ma possono variare da persona a persona. Per questo motivo, i commenti e le riflessioni proposte sono frutto esclusivo dell'esame e dell'analisi del pensiero dei rispondenti di tale sondaggio.