CAT Tools in Professional Translating: A Practical Approach

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ABSTRAKT

Cílem této bakalářské práce je představení nástrojů CAT, jejich analýza a následné zhodnocení. Práce se skládá z teoretické a praktické části. Teoretická část uvádí vhodné typy textu pro strojový překlad, a také rozdělení překladových technologií dle míry lidského zásahu do procesu překladu. Dále popisuje nástroje CAT a jejich možný budoucí vývoj. Praktická část obsahuje analýzu dvou vybraných nástrojů CAT pro odborný překlad.

Klíčová slova: překlad, překladatel, odborný překlad, strojový překlad, překladová technologie, nástroje CAT, počítačem podporovaný překlad, SDL Trados Studio, memoQ

ABSTRACT

The aim of this bachelor thesis is to introduce, analyse and, subsequently, evaluate CAT Tools. The thesis consists of a theoretical and analytical part. The theoretical part introduces appropriate text types for machine translation, and also the division of translation technologies based on the degree of human intervention in the translation process. It also describes CAT Tools and its possible future developments. The analytical part involves an analysis of two selected CAT Tools for professional translation.

Keywords: translation, translator, professional translating, machine translation, translation technology, CAT Tools, computer-aided translation, SDL Trados Studio, memoQ

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I hereby declare that the print version of my Bachelor's/Master's thesis and the electronic version of my thesis deposited in the IS/STAG system are identical.

CONTENTS

INTRODUCTION

The twenty-first century is the age of globalization and the demand for translation is beyond what translators or interpreters can actually meet. Therefore, it is crucial to make the process of translation as efficient, accurate and easy as possible. That is the reason why utilisation of technology is in fact inevitable in today's world.

Although there are currently many possibilities to choose from regarding machine translation technology, there is a lengthy process of complex development and research behind it that took about half a century. As Juliane House, an emeritus professor of applied linguistics, noted, the first optimistic ideas to create fully automated translation were soon found to be impracticable. Later, the proposal of creating automated dictionaries instead was a much more realistic, attainable, and beneficial objective. (House 2018, 18)

This thesis is divided into two main parts – theory and analysis – and it describes the need of Computer-Aided Translation tools and overall technological support in today's professional translation field.

The theoretical part is divided into four chapters. The first chapter is focused on translation, its history and importance. The characteristics of technical and literary translation are provided, as not every type of text is suitable for machine translation. In the second chapter the translation technologies, their types and history are described. It also introduces approaches to machine translation. The third chapter is focused entirely on Computer-Aided Translation tools, what paid and free systems are available on the market and describes translation memory systems. The last chapter of the theoretical part is dedicated to the future of translation technology and its possible developments.

The analytical part focuses on practical details of chosen Computer-Aided Translation Tools, their utilisation, evaluation, and overall, how user-friendly they are. Their advantages and disadvantages are also included. This thesis is devoted to professional translating, and thus two of the most popular paid software were selected for the analysis – SDL Trados Studio and MemoQ. These tools were downloaded from their official websites and they both offer trial licenses for 30 days with all features included.

The conclusion of the thesis is a summary of findings from the practical use of the mentioned Computer-Aided Translation tools.

I. THEORY

1 TRANSLATION

This chapter gives us a brief outline of types of translation. Since they differ, their essential and distinctive features must be identified, and therefore, a more appropriate type of translation can be determined for Computer-Aided Translation tools.

The definition of the term *translation* can be found in many books on translation theory. Venuti defines translation as "a process by which the chain of signifiers that constitutes the foreign text is replaced by a chain of signifiers in the translating language, which the translator provides in the strength of an interpretation" (Venuti 2018, 13). House (2018, 9) provides briefer definition, which is that translation is a practice of replacing an original text in one language, referred to as the source text (ST), with another text in a different language, referred to as the target text (TT). In other resources the definition of translation is very similar.

When it comes to the accuracy of translated texts, it is crucial to understand that translation is always an interpretation of the foreign text. Both translations and foreign texts are derivative and depend on different aspects, for instance cultural, linguistic, semantic, pragmatic, thematic, and social aspects. According to Susan Bassnett (2014, 3), a translation theorist, certain modifications have to be made to the translation when there is no equivalent in the TT to match a word or meaning in ST, which is due to the fact that two different languages never share the same syntax, vocabulary, and structure.

1.1 Types of Translation

Although there are undoubtedly multiple division of translations, this thesis is dedicated to CAT tools and therefore, the following types of translation focus on written texts exclusively. To display examples of text types convenient for machine translation, two translation types are briefly introduced.

Two of the most dominant categories are technical (scientific) and literary translations. These categories are differentiated by their stylistic characteristics and functions of the SL (Kufnerová et al. 1994, 25).

Technical translations are not required to be stylistically perfect, and they are often repetitive. On the other hand, it is expected for such specialized writing to be highly comprehensive and not contain ambiguous content. Also, fixed vocabulary and phrases are typical for technical texts to ensure the terminology is consistent and clearly defined (Kufnerová

et al. 1993, 25, Somers 2003, 272-3). To conclude, the language of technical texts is more concentrated on a subject.

According to Wright and Wright Jr. (1993), technical translation can be associated not only with a translation of texts in medicine, engineering, science, or translation of manuals, but also with legal documents, economical, and psychological ones. Besides mastering both target and source languages, translators of such documentations must have a thorough understanding of the text's subject. Furthermore, they need to excel in the specific field of technical translation and acquire a high level of linguistic expertise to provide readers with coherent text at its highest quality. Given the amount of know-how required to complete such translations, it is no exception that linguists and specialists from mentioned technical and scientific fields collaborate to produce a professional translation (Wright and Wright Jr. 1993, 1).

On the contrary, House (2018, 15) states that a literary translation is frequently considered an art since it depends on the translator's intuition, creativity, and abilities. Unlike technical translation, the language function of a literary text is primarily consisted of expressive meaning. According to Bahaa-eddin (2011), a translator's intellect and imagination reflect in literary translation. Other characteristics of this type of translation are, for instance, symbolism and subjectivity of the text, and also allowed usage of ambiguity. In the case of a literary translation, all the literary features of the source text, such as figures of speech, must be preserved in the target text (2-3).

As the key function of machine translation is to maintain comprehension rather than to produce a perfect target text, it must be acknowledged that certain types of texts are not suitable for this type of translation. The most suitable source text for an machine translation is preferably repetitive, exact, and unambiguous. Literary text will presumably always require extensive human involvement in the translation process as computers are not capable of creating their own linguistic or aesthetic sentience demanded to create literary texts.

1.2 History of Translation

Roots of the history of translation itself date back to 3000 BC. Around that time, the first bilingual inscriptions were discovered in the area of Assyria and Mesopotamia (Newmark 1995, 3).

In the Romans' period, the craft of translation was perceived as a competition of the translator's text and the author's original text. During the Middle Ages and Renaissance, the

result of technical translation stayed similar to the source text, whereas literary works were translated rather freely. Some indications of application of linguistics date back to the 14th century. The lack of formal identity of language resources was sensed, and as a result, it was assumed that the translation from Latin (as a lingua franca) into vernacular languages was unfeasible (Kelly 1995, 419-30).

In the 19th century, translation was practiced primarily in communication between influential men of letters, scientists, philosophers, and their readers abroad. In the 20th century, also called the *age of translation* or *reproduction*, as nations were developing, seeking independence, and overall world communication had increased, translation became considerable in politics (Newmark 1995, 3). The need for translation grows exponentially with the rapid evolution of the world.

For centuries up until the early 20th century, there were two approaches to translation theory – 'word-for-word' versus 'sense-for-sense' approach. The word-for-word type of translation refers to substitution of one word in the source text with another word in target text, whereas the sense-for-sense approach is more focused on the meaning of source text and its retainment into the target text. Later in the seventies, a variety of approaches appeared that were considerably more complex, for example functional, linguistic, and cultural approach (Quah 2006, 23).

Quah (2006, 25-6) states that functional approaches to translation can provide a connection between Translation Studies (TS) and translation technology, especially machine translation. The emphasis on the target text's intent concerning its translation setting is consistent with a standard definition of translation quality as "fitness for purpose".

2 TRANSLATION TECHNOLOGIES

With the growing amount of translation, technology is becoming more and more important in the translation profession. Not only it helps the translator to be efficient, but it is almost vital for the translator to use technology if he or she wants to remain competitive in the 21st century's global market.

This chapter introduces types of translation technologies based on the degree of automatization and human involvement in the process of translation. It also states which type of translation technology is used the most. Besides that, a brief history and developments of translation technologies are covered in this chapter. Lastly, approaches to machine translation are presented and the most useful ones for professional translators are identified.

2.1 Types of Translation Technologies

These terms are very closely linked together and sometimes their distinction might be unclear. For instance, according to Quah (2006, 6), the term *Computer-Aided/Assisted Translation* (CAT) is frequently used in the professional translating community and in Translation Studies, whilst people developing software for this type of tools often use the term *Machine-Aided Translation* (MAT).

2.1.1 Computer-Aided Translation (CAT)

According to Bowker, Computer-Aided Translation is a process in which human translators use a computer software to assist them in completing their translations (Bowker 2002, 144). In comparison to Bowker's statement, Austermühl refers to CAT as translation whose process involves any assistance of a computer in general (Austermühl 2014, 178).

2.1.2 Machine Translation (MT)

Initially, the term was used to describe only automatic systems without any human intervention. Due to the fact that researchers and scholars cannot agree on the exact definition of Machine Translation regarding to the human involvement, this term still persists to describe both automated systems and systems involving human intervention (Quah 2006, 9).

According to Bowker (2002, 149), this term describes the process in which computer is the primary former of the text's translation and human is just an assistant for pre- or post-editing.

2.1.3 Machine-Aided Translation (MAT)

As it was previously stated, Machine-Aided Translation is a term used in a community of people who develop this kind of computer tools (Quah 2006, 6). Otherwise, it has the same definition as Computer-Aided Translation that was described above.

Since this is a thesis directed towards the translation field, the term Computer-Aided Translation will be used for both CAT and MAT.

2.1.4 Human-Aided Machine Translation (HAMT)

According to Lehrberger and Bourbeau (1988, 7), this translation is completed by a computer with the necessary help of a human translator. Assistance of the human translator can be required before the text is forwarded to machine translation, throughout the whole process, or during the post-editing phase when the final output is revised.

The human intervention is necessitated mainly because particular linguistic structures are difficult to automatically analyse, and also because of a semantic aspect (Lehrberger and Bourbeau 1988, 7).

2.1.5 Machine-Aided Human Translation (MAHT)

Machine-Aided Human Translation is defined as a translation where computer software completes a particular part in the process of the whole translation and the human translator may use a variety of tools or their combination to complete it. Therefore, this type of translation is primarily put together by the translator (Quah 2006, 13)

2.1.6 Fully Automatic Machine Translation (FAMT)

The Fully Automatic Machine Translation is described as translation in which no human assistance is used between entering the text into the machine for processing and the definitive crude output of the machine translation. Nonetheless, this machine output still requires some revision, similarly as the human translation would, although the machine itself decides which parts of the text should be checked (Lehrberger and Bourbeau 1988, 8).

2.2 History of Translation Technologies

The transformation of translation from craftsmanship to a mechanical process is inextricably linked to and strongly influenced by technological advancements. Over the last 40 years, the translator's work has changed from translating paper documents without using any tools to translating electronic documents inserted in a variety of software, tools, and applications.

All the aforementioned technologies have a large range of different formats and serve diverse purposes (Pastor et al. 2018, 205).

The concept of using a machine to translate dates back to the 1950s, the age of the Cold War, when U.S. scientists tried to use the help of technology to translate Russian documents (House 2018, 18). According to Kay (1973, 217), for the first time in history, a considerable amount of money was invested in projects that could be eventually inauspicious. The U. S. government's departments invested money to obtain a computer program or machine that would be able to produce fully automated translations.

Later in the 1960s, the Automatic Language Processing Advisory Committee (ALPAC), a board of seven scientists, was established to evaluate the national sponsorship of research on machine translation. After some research, the committee produced a highly critical report that claimed machine translation was inefficient, expensive, and unsatisfactory. They also recommended to discontinue financing the research in this field. This resulted in suspension of development of machine translation in the U. S. for more than a decade (Kay 1973, 217).

In the early 2000s, when researchers moved from a ruled-based approach to a statistic-based approach, the quality of machine translation improved significantly. Due to statistical probabilities and new computer advancements, which made computers capable of processing and storing massive volumes of data, translation technologies could use these data for continuous improvement. As an example of system, which is supported by the statistic-based approach, is globally well-known Google Translate (House 2018, 18-9).

Despite the fact that many advances are being made in the field of translation technologies almost every day, a fully automated high quality computerized translation is still not available.

2.3 Approaches to Machine Translation

In spite of the fact that machine translation is unfavourably famous for its errors, significant advances continue to be made and it has improved considerably in the past few decades. The error reduction is due to numerous factors and their combination. One of the factors being the possibility of building larger databases of grammatical rules and lexicons. Another one is the new linguistic knowledge that has been acquired (Bowker 2002, 3).

With a better understanding of linguistic theory, it is easier to interpret related rules and create controlled languages (CLs) to eliminate ambiguity. A crucial factor is improvements and utilisation of the computers themselves at their full potential. This has resulted into new approaches to machine translation, such as statistical-based and example-based approaches (Bowker 2002, 3).

Various methodologies have been adopted to achieve the automated translation. According to Tripathi and Sarkhel (2010, 388-9), the translation process is divided into two levels – metaphrase and paraphrase. They refer to metaphrase as the word-for-word translation, which produces the result of 'literal' translation for every word in source text, and therefore, this level may cause loss of meaning of the original text. Paraphrase, on the contrary, would carry the meaning of the original text without necessarily producing the word-for-word translation (9). The typical metaphrase level would be seen, for instance, in the direct translation approach that is heavily based on word-for-word translation (Quah 2006, 177). These two levels are the cores of approaches to machine translation and every translated text in general.

Sin-wai (2017) claims that from the beginnings of machine translation research to the year 2012, a total of 22 approaches have been formed (217). Chosen methodologies are further described based on their distinct importance.

2.3.1 Rule-Based Machine Translation Methodology

The rule-based machine translation methodology is focused on transferring structures of source language to structures of target language (Tripathi and Sarkhel 2010, 389) and its development is dated from the 1960s to the late 1980s (Somers 2003, 177). Sin-wai (2017, 219-20) describes this machine translation as "a relatively traditional machine translation method which depends on the preparation and maintenance of a large number of rules and lexical information in the form of dictionaries, both general and specialized". This methodology involves various approaches or sub-types. Two of the most important are interlingua and transfer translations (Tripathi and Sarkhel 2010, 389). Quah (2006) mentions that the highest usage of linguistic theory is implemented in the rule-based methodology due to the utilisation of formal grammar (177).

Interlingua translation transforms the source language into an independent intermediary language, from which, subsequently, several target languages can be potentially derived (Tripathi and Sarkhel 2010, Sin-wai 2017). The term *interlingua* is presented as "all

sentences that mean the "same" thing in the same way, regardless of the language they happen to be in" (Jurafsky and Martin 2000 cit. from Quah 2006)

Transfer translation converts the source language text into an abstract representation, while the characteristics of the source language stay unchanged. Afterwards, a corresponding representation is produced for the target language, which now bears the characteristics of the target language. This representation is created by using grammatical rules and dictionaries (Tripathi and Sarkhel 2010, Sin-wai 2017).

Quah (2006, 73-4) claims that this approach is not as ambitious as the interlingua translation approach. As this translation depends on dictionaries, it may cause difficulties in resolving language ambiguities. On the contrary to the interlingua translation, this approach employs multiple transfer models for every translation unit.

2.3.2 Corpus-Based Machine Translation Methodology

This approach uses a vast pre-existing database of already translated texts to generate a whole machine translation system (Sin-wai 2017, 218). Due to its exceptional level of accuracy is the corpus-based methodology one of the most popular (Tripathi and Sarkhel 2010, 390), and its development is dated to the 1990s. Therefore, it is more modern in the field of machine translation (Somers 2003, 163).

Quah (2006, 177) introduces two of the main approaches/sub-types – prominent example-based translation and statistical-based translation. Sin-wai (2017, 218) presents an additional sub-type of corpus-based approach – a memory-based machine translation, although both Tripathi and Sarkhel (2010, 391) and Quah (2006, 81) include this translation in the example-based translation approach.

The example-based translation uses an immense amount of corpora to analyse equivalent, previously translated examples of language pairs to, subsequently, generate similar text in the target language (Sin-wai 2017, 218). Quah (2006, 81-3) refers to these examples as "a matched pair of segments", which should preferably be at the length of a sentence. If no similar matches are identified in the bilingual corpus or if the STs are metaphorical, the example-based approach will probably fail to be effective.

Lastly, the statistical-based translation is based on comparing source text segments to a bilingual corpus. Statistical methods are then applied to acquire new segments of target text. This approach is also not faultless as it needs an extensive bilingual corpus for the translation to be successful (Quah 2006, 77-80).

According to Quah (2006, 91), these two approaches are the most practical for professional translators, as their key advantage is the possibility of using already translated content.

3 COMPUTER-AIDED TRANSLATION TOOLS

As computer-aided translation tools are becoming more and more popular in the professional translators' community, it is crucial for the modern-day translators to be acquainted with different types of computer tools (Bowker 2002, 6).

As it was mentioned in the second chapter, CAT technology, in its largest context, refers to any kind of tool that is computerized and translators use its assistance in their work. Tools such as e-mail, grammar checker, word processors, and the World Wide Web are great examples. These tools are used not only by translators, but also by people from other professions. Furthermore, these tools are also used outside the professional world for personal correspondence and research as this CAT technology is widely available (Bowker 2002, 6).

Despite the fact that professional translation is mainly technical, there are many innovations, developments, and overall changes in various fields as information technology, business, medicine and others, that it is beyond the bounds of possibility for a technical translator to be familiar with all these fields. Different types of computer tools are suitable for different specialised fields. Each translator has to determine which tool will be the most appropriate for his/her specific translation purposes (Austermühl 2014, 102).

3.1 Translation Memory Systems (TMS)

Translation memory represents a collection of linguistic data, which saves the source text and its translated equivalent. The text which is being translated is divided into segments that are frequently in the form of sentences (see Table 1). Translation memories' most crucial feature is that it enables translators to use already translated units again. "Reusing a previous translation in a new text is sometimes referred to as "leveraging." Although language is dynamic, it is quite repetitive, and people often use the same or similar expressions when communicating similar ideas" (Bowker 2002, 92-3).

Table 1 Display of translation units

Translation unit 1	EN: This entrance is temporarily closed. CZ: Tento vchod je dočasně uzavřen.
Translation unit 2	EN: Please use the next door. CZ: Prosím použijte vedlejší dveře.

3.2 Free and Open-source Tools

Open-source system or software is one that is freely accessible, and it enables its users to analyse it, make changes and improvements of their translation process. System is collectively evolved by peers, meaning all public users.

Lately, these systems are rapidly gaining in popularity not only in translation industry, but also generally in diverse companies, which are not oriented in translation field. Businesses are supposedly using these systems because they are flexible and have valuable features, which is only adding to the fact, that they are for free. (Bowker et al. 2008, 27).

3.2.1 OmegaT

OmegaT is a good example of a free, standalone, open-source Computer-Aided Translation tool originally created by Keith Godfrey but as an open-source project, it was developed by many volunteers that are under the leadership of Aaron Madlon-Kay (OmegaT, 2021).

It is one of the most used computer-aided translation tools intended for professionals but used also by academicians. It includes traditional features for example fuzzy matching, match propagation, and simultaneous processing of multiple-file projects, can be combined with another software and since it is based on Java it can be used basically on any platform such as MS Windows, Linux, Mac OS (Sin-wai 2017, 194). Thanks to a survey that was conducted in 2010 among 458 professional translators, it was found that OmegaT was used by 6 % of CAT tools users when compared to the market leader SDL Trados, which was used by 50 % of all users questioned in the survey (Translation Tribulations, 2021).

3.3 Paid Tools

Nowadays, many commercial translation memory systems are available on the market. According to Hutchins (2005, 13), “The oldest and best established are the systems from Trados, STAR (Transit), and Atril (Déjà Vu). Others include the systems from SDL, Multilizer, Terminotix (LogiTerm), Champollion (WordFast), MultiCorpora (MultiTrans), MetaTexis, and so forth”. These systems have very similar features, and therefore with an increasing demand, the competition is very high, but it can be easily said that SDL-Trados, which was created by merging two already leading softwares – SDLX and Trados – is a leader in the industry (Hutchins 2005, 13).

These paid systems can be divided into standalone systems and network-based systems. Standalone systems usually do not require internet connection and are suitable for

working offline, have fast response and are compatible with popular operating systems which makes them great for individual users. Network-based systems require internet connection since they are operated in a network environment. This means that they can be accessed from anywhere in the world with access to internet connection. Moreover, network-based systems support team collaboration and management as the translation memories and terminology can be shared within whole team (Sin-wai 2017, 169-70).

3.3.1 MemoQ

MemoQ was developed by the translation technology provider Kilgray Translation Technologies, which is based in Hungary. The company's name was generated from the names of the founders – Kis Balázs (KI). Lengyel István (L), and Ugray Gábor (GRAY). This technology was firstly introduced in 2009, after four years of its development (Sin-wai, 2017, 187). MemoQ is further described in the practical part of this thesis.

3.3.2 SDL Trados Studio

This computer-aided translation tool joined the translation industry in 1984 and became broadly popular since then. It was founded by Iko Knyphausen and Jochen Hummel in Germany. SDL Trados has more than 270,000 customers worldwide. Among those customers are both self-employed translators and huge translating companies. The name of this translation memory software is created of initial letters from the words TRAnslation, DOcumentation, Software (RWS, 2022).

4 FUTURE OF TRANSLATION TECHNOLOGIES

Translation technology was first expected to be entirely automated with no need for human intervention, and that is what the developers and researchers of such technologies were fully focused on at first. After some attempts to create an automated translation, this former idea was doomed due to a disappointment. Intensive research was being held for over a decade and it soon became clear they should divert their attention to other types of translation technology. In fact, in the early stages of MT research, Bar-Hiller (1960) proclaimed that fully automatic high-quality translation (FAHQT) is only an optimistic vision that would not be achieved in the near future (92-163, from Pastor and Durán-Muñoz 2018).

In this chapter, the possible and expected future directions in the field of translation technologies are covered. In order to be possible to predict how machine translation could evolve, it is necessary to determine the fundamental goal of the translation. Sin-wai (2017, 31) claims that the aim of all types of translation, in general, is to produce high-quality translations. Regarding machine translation, the objective of FAHQT is to be attained using a machine translation system without the need for human assistance. In the case of computer-aided translation expressly, the same objective is to be achieved via a CAT system, which imitates the activities of a human translator through interaction between a man and a computer.

According to O'Brien (2012, 101-22), there are two general approaches to the future of the human-computer interaction. One that assumes the idea of computers being able to generate high-quality translations is ridiculous, and other one is concerned about professional translators' future. She also claims that neither of these two approaches are reasonable, and even though the machine translations are not 100 % accurate, they can produce sufficient translations for some recipients of the translations. It is important professional translators see these modern technologies as an opportunity to improve their skill sets and gain new opportunities rather than perceiving them as a thread.

Professional translators evolved from craftsman to technologists in the modern age. The increased volume of translators, who are competent to use technology, was discovered to be around 200,000 in the 2012, and is predicted to grow immensely. It is also expected that the modernising process of translation profession will resume (Sin-wai 2017, 270-1).

4.1 Future of CAT Tools

In the case of CAT Tools, translators usually sympathise with using efficient tools to improve their work and increase productivity (Quah 2006, 156). Additionally to O'Brien's (2012) statement on concerns about the technology, Quah (2006, 156) mentions that there are also some concerns about the necessity of personal investments in devices and training. However, translation agencies offer to train their employed or freelance translators so that they can work collectively using a network translation management system. It is also becoming popular to watch online instructional videos provided by the software suppliers to acquire the knowledge and skills of CAT systems (Sin-wai 2017, 270).

Bowker (2002, 138) predicts future developments regarding further integration of various CAT tools to establish a collection of integrated computer aids for translators, which is called a workbench. Also, it is expected that utilisation of the produced resources as a basis for developing MT systems and other processing tools will increase. The same development is foretold by Quah (2006, 156), namely that workbenches (including CAT Tools) will remain the primary translation support for professional translators in the envisioned future.

Timothy Hunt (Sofer 2009, 88 cit. from Sin-wai 2017, 39) stated that "[c]omputers will never replace translators, but a translator who uses computers will replace translators who don't".

II. ANALYSIS

5 COMPUTER-AIDED TRANSLATION TOOLS IN PRACTICE

In the following chapter, selected CAT tools are analysed according to certain factors under the same conditions. The analysis examines working with tools from their installation through a description of their functions and glossary to their overall support in translating the text. To achieve the most objective and accurate analysis procedure, these tools work with the same test file (text).

For the analysis, the chosen computer-aided translation tools are MemoQ and SDL Trados Studio. Both of these tools are paid but offer a trial version which is more than sufficient for the purpose of this analysis. The latest version of each software is used in the analysis to keep it up to date.

It is important to mention that both of the analysed tools are developmentally aimed at a particular group of translators – the corporate users. These tools encompass a special corporate translation management system for managing translation projects of the corpora. On the other hand, the fact that selected CAT tools are designed for that type of translators does not mean that specifications and features of these applications are not convenient for other users. It is mentioned due to the fact they are rather expensive for a freelance translator (Chan Sin-Wai, 2017).

Finally, the tools are compared and evaluated according to the selected criteria and their advantages and disadvantages are described.

5.1 Introduction of Factors for Analysis

Although there are many factors which could be used in the process of evaluation of work with CAT tools, the following factors were found as the most important for this analysis.

In order to use CAT tools, the first step is to install them into the device (computer) and login. This is included as a factor to fully capture the user's experience throughout the whole process. In addition, the user can meet with certain difficulties in the process of installation of the software.

An essential factor that is used to evaluate CAT tools is the user interface. How easy it is to navigate through the environment of the application, how intuitive is the translating process from inserting the source text or document to generate the target text in desired format. And also, to what extend is necessary for a new user to go through a user's guide to be able to use important features and complete a project.

Prior to investing in a CAT tool, it is necessary to ascertain whether the selected application is compatible with the operating system that the translator has on his computer. The support of different file formats that the software offer is also important. Therefore, the support of both of these aspects – operating system and files – is also included in the evaluation.

According to the information gained from researching websites of analysed tools, one of the key features of CAT tools is their translation memory technology. This feature helps the translator to reuse already translated text by highlighting or even automatically translating the segments of text that occur repeatedly and were once translated (RWS 2022, Memoq 2022).

Creating a terminology base is extremely helpful feature. It makes the process of translation quicker and therefore the translator can use his/her time more efficiently. The term base is a collection of inputs which have expressions in different languages. The translator can add new terms to the base in multiple languages, connect it with a description or even an example of the term's usage. The tools often recognise and highlight added terms in the process of translation. Also, the term base can be shared among the translators, for example when they are working on a large project with voluminous amount of text (Memoqdocs, 2022).

5.2 SDL Trados Studio 2021

SDL Trados Studio is the first computer-aided translation tool that is analysed. According to the tool's webpage, SDL Trados is the leader of CAT tools available on the market. With its long history of development, it is expected for SDL Trados to satisfy all the needs of its users (RWS, 2022).

SDL Trados Studio is a paid software, which offers a 30-day trial of its latest version. The trial version is restricted only by not having access to the cloud functions of Trados Live, and the access to products that are not native for the software is also not included. To continue using the tool after the trial period has ended, the user has to purchase full license. There are three products available for selection – Trados Studio Starter, Trados Studio Freelance and Trados Studio Professional. The price for perpetual licence for this tool ranges from 519 EUR for Freelance (currently at discount from 695 EUR) to 2.495 EUR for Professional licence (Trados, 2022).

5.2.1 Installation

Prior to downloading the trial version of Trados Studio from the official webpage, the user is obliged to fill in a form with personal data. The information includes first and last name, e-mail address, country, company name, and job title. The last two compulsory data can be quite misleading since this tool can be downloaded by anyone (e. g. freelancers, students), not only by people who work for a company (e. g. corporate users). After the form is submitted, the trial download link is sent to the e-mail address that was filled in the form.

When the file is downloaded, the user is informed that the product for 30-day trial is automatically selected Trados Studio Professional since it is the first-time installation. After accepting the product and several agreements, the installation itself starts and the process of it takes no more than few minutes. After the installation is complete, the setup window opens, and 3 steps needs to be done. These include once more filling the user's personal details, selecting user's profile (default is recommended for new users) and choosing whether or not the user wants to load samples at initial startup to help him started quickly.

5.2.2 User Interface

The application's dashboard opens after installation and welcomes the user to a sophisticated user interface. To start the translation process, the user simply clicks on "Upload" the file with source text and then chooses if it is a new project or he/she wants to translate it as a single document. Then the basic settings of the document, such as the source and target language, have to be chosen. In this step, a translation memory has to be selected or created.

After inserting the document for translation, an editor page opens, where the source text is automatically divided into segments which are sentences (see Figure 1). The layout of the page is well organized, which is a great benefit, especially in the translation process itself. The user has a perfect overview of his or her working progress.

In case the user needs help with navigating through the application, he or she is can click on the "Get Started" tab, where there are Quick Start Guides in the form of instructions in PDF document and links with video tutorials. In about 15 minutes, these video tutorials introduce the new user to the basic functions and areas of SDL Trados Studio.

As can be seen in Figure 1, the left side of the page displays the source text and on the right side there is the target text in the process of translation. This layout makes the user interface in SDL Trados Studio extremely synoptical.

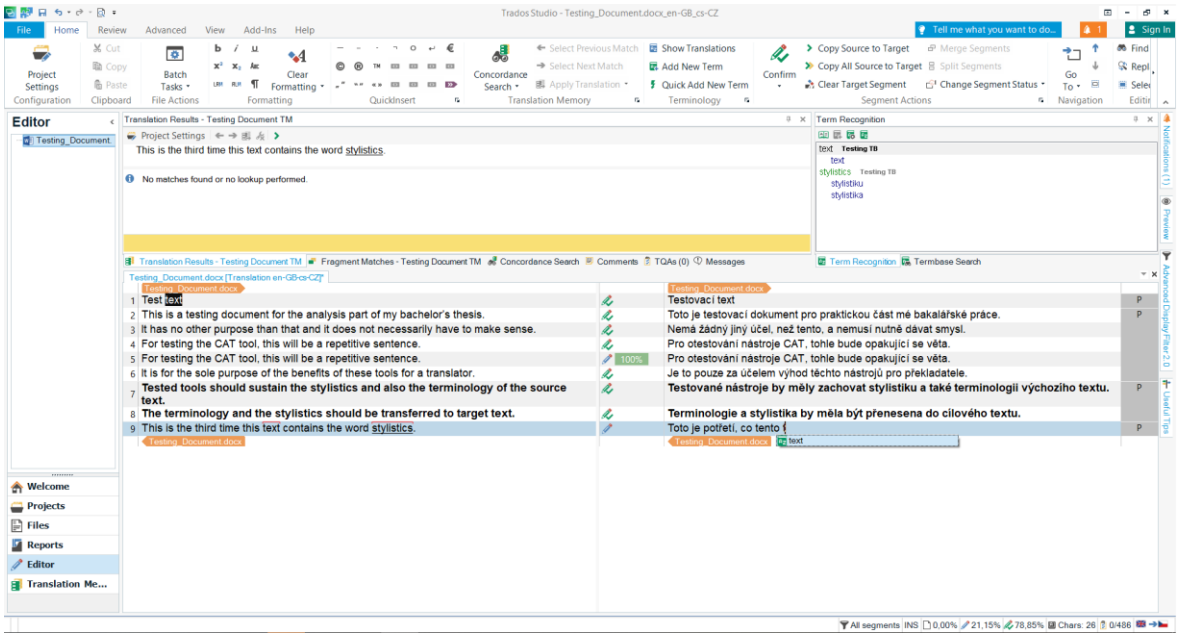

Figure 1 SDL Trados Studio's interface

5.2.3 Compatibility and Support

The SDL Trados Studio supports a large amount of file formats. On the tool's support webpage there is an overview of 29 file formats compatible with the tool. As most important ones can be stated Microsoft documents file formats, Rich Text Format, Adobe and Open-Document formats, Portable Document Format (PDF), XML files, SubRip (for subtitles), and other Text file formats (RWS Support Gateway, 2022).

When it comes to operating system, Trados Studio is not compatible with any other system than Microsoft Windows. Despite that, it was found that on the SDL Trados Studio's page there are described two possible solutions for users who has other operating system than Windows – one free and one with the need for downloading applications at a small cost (Trados Support, 2022).

5.2.4 Translation Memory

With the translation memory feature the user is acquainted with from the first startup of the application. It is due to the fact that it must be created or selected already when uploading the source text or document, as was mentioned before.

In the translating process the translation memory in SDL Trados Studio not only automatically translates once confirmed and saved segments, but also offers translation of similar ones, which really helps to quicken the whole process. To store expressions or segments into the translation memory, the user has to confirm each sentence with a keyboard shortcut "Ctrl + Enter". As can be seen in Figure 1, after confirmation of the sentence, a green tick appears meaning the translated segment was saved in translation memory.

5.2.5 Term Base

The creation of term base was not as simple as creating the translation memory. In the project setting the user has go through a "Termbase Wizard" where he/she fills in the name of the term base and selects languages they wish to include in it. This wizard also offers the possibility to fill in the area to which the term base belongs and thus also the translation itself. This is a useful option for users who translate texts from multiple areas and have different term bases divided by these areas in which the same terms often occur.

In case the user is not translating with the tool for the first time and has a pre-defined or existing term base, he/she can simply upload those term bases to work with in the new project. The ability to use already established term bases is highly beneficial, especially for translators who focus on translating texts with repetitive terminology.

The term base function in SDL Trados works with no problems. The tool offers once translated and saved terms (see Figure 1, segment 9.). On the other hand, it may take some time for new users to take full advantage of this feature as they have to create a term base first to use it in their future translations.

5.3 MemoQ 9.10.12

This computer-aided translation tool is available for download on the official website where the user can choose from three products – memoQ translator pro, memoQ project manager and memoQ server. The latest version of memoQ translator pro was released on 16th of February 2022, and it is also the version that is worked with in this analysis (Memoq, 2022).

MemoQ is a paid application with 30-day trial period, which can be then extended by the purchase of a licence. Currently, the licence for the product memoQ translator pro is offered for 620 EUR and the licence itself is perpetual. However, after a year of the initial purchase, the user will be asked to pay the Support and Maintenance Agreement fee, which

enables him/her to download the latest version and access to support and assistance. Although this fee is highly recommended to pay, it is not obligatory (Memoq, 2022).

5.3.1 Installation

After downloading the required application, the setup window is opened with a language option for the installation – English, Deutsch, Spanish, French, Japanese or Magyar. Then the Setup Wizard opens, and a "next" button guides the user through the terms and conditions for using the application and selection of the received updates preferences.

Consequently, an Activation Wizard opens to select user's access – if he or she is a new user and would like to start a trial, has a licence, or will get a licence from a server. The next step is to fill in personal data and the installation is complete. Overall, the whole process of installation is extremely simple.

5.3.2 User Interface

When the installation is completed, the final step is to go through Startup Wizard to configure basic settings to adjust the application's environment to its user. For example, the font and the size of letters can be selected, and the layout of the page can be also chosen. MemoQ's interface is very similar to any Microsoft application's interface. Unfortunately, that does not mean that navigating through the application for users who have worked with Microsoft's products is intuitive. On the contrary, for a new user, it might take some time to become familiar with the layout of the ribbon or the placement of various features in the tabs. However, once the primary functions are discovered, the next steps in the creation of the translation are rather instinctive.

When creating a new project for translation, there is a template to fill in that contains a project's name, client, subject, domain, and the user can also specify a deadline for completion. Next, the user needs to select a source language and a target language. The selection of languages is not possible to change after the project is created.

After the project is created, the user can import a document for translation. The application automatically divides the text into sentences. The division of the text to sentences makes the workspace very synoptical for the translator. The source text is displayed on the left side of the screen and the target text is to be filled on the right side. On the bottom of the page the user can overview the process of translation (see Figure 2).

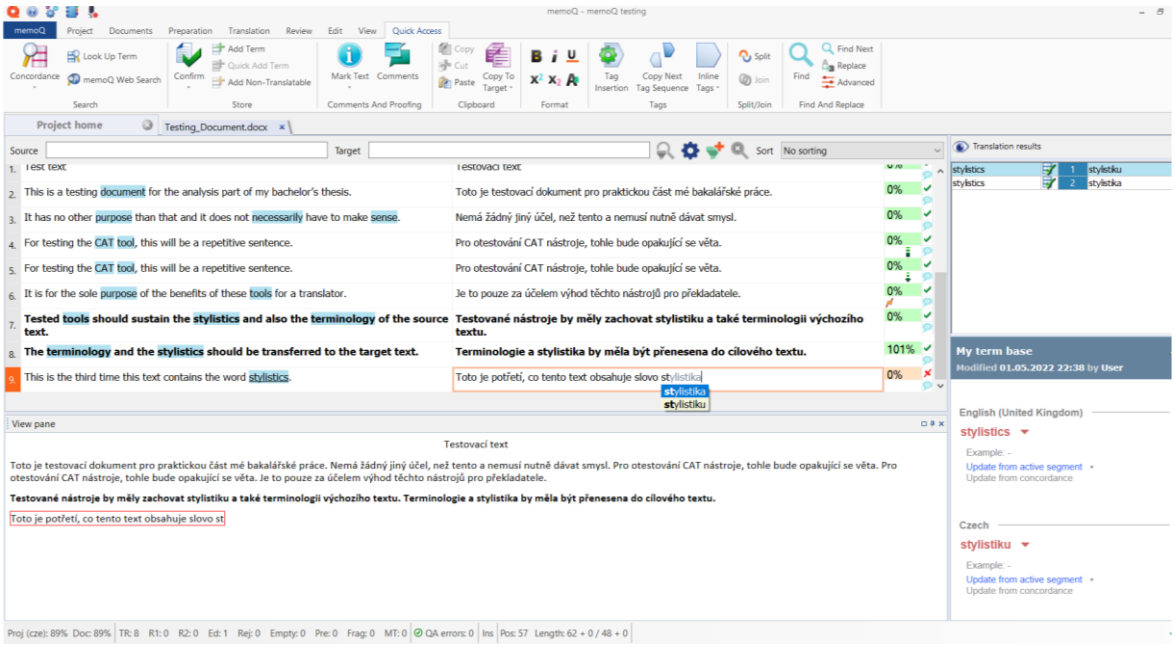

Figure 2 MemoQ's interface

5.3.3 Compatibility and Support

MemoQ supports a variety of file types for import and export. Bilingual file formats are used for sharing files with other CAT tools or other memoQ users. Monolingual file formats are for a single user. The most important file formats supported by memoQ include HTML documents, Microsoft Word, Excel and Powerpoint documents and Rich Text files, OpenDocumentText documents, Adobe files, XML and SGML files, Portable Document Format, and SubRip video subtitle files. Overall, memoQ also provides support for a total of 29 file format (Memoqdocs, 2022).

Unfortunately, as memoQ is developed for the Microsoft Windows operating system, it is also not supported by Mac or Linux operating systems. For users whose computers run on these systems is the only possible solution to download an application which allows their systems to run Microsoft Windows applications in a virtual environment (Memoqhelp, 2022).

5.3.4 Translation Memory

The translation memory has to be created by the user for the project so that the software is able to store and use already translated units. The translation memory can be created for each project, or the user can use the same one for multiple projects as long as the source language and target language is also the same pair, for example English and Czech.

To save the translated segment into the memory translation, it is necessary to confirm the translated sentences with the keyboard shortcut "Ctrl + Enter", which is same for both of the analysed tools. Then the translation of the segment is confirmed, a green tick appears, and the user able to move on to translating the next sentence.

The translation memory feature in memoQ works without any problems. If an already translated and confirmed segment appears again in the translated text, the tool will automatically offer a possible translation of the repeated text. In a testing document for this analysis was the same sentence used twice and memoQ automatically filled the repetitive segment. There also appeared an arrow to the right of the translated segments to represent the repetition (see Figure 2, segment 4. and 5.), and no further confirmation of the automatically translated text was necessary.

5.3.5 Term Base

In the memoQ tool, the creation of a terminology base is very simple. The user only needs to click on the “Term bases” tab in Project home panel and select the two languages that will be used in the translation as source and target. Similarly to SDL Trados Studio, memoQ also offers the ability to fill in the subject and description of the term base when creating a new one. After the term base is created, adding new terms is extremely easy.

5.4 Evaluation

It is important to take into consideration the target group of users when it comes to evaluation of computer-aided translation tools. Both of analysed tools are paid software and high quality products and therefore, they are expected to be mostly used by professionals. According to Pastor and Durán-Muñoz (2018, 137), there are two main aspects that are crucial for evaluation of impact of CAT tools on translator’s work – speed and quality.

It was found that these tools are both definitely able to increase productivity and quality for their users. Especially if the user is able to take advantage of all their special features. The main features, however, include translation memory and terminology base.

Neither of these analysed tools have pre-imported term base or translation memory. That means that a new user is expected to create a new one. Therefore, these features were tested only on the newly created terminology bases and translation memories. Regardless, both of the tested tools seemed to have no problem fulfilling their function.

When it comes to the installation, the memoQ's one was definitely faster than SDL Trados Studio. In the process of installation of memoQ, the user was offered to customize the environment to his or her preferences, which was found very pleasing. Even though the possibility to customize the interface in SDL Trados Studio was later found in the software as well, for a new user, the ability to set up basic configuration already in the installation process may be significantly easier. Nevertheless, there was no trouble with installation of either tool, and they run through it rather smoothly.

The disadvantage of both analysed tools was discovered in compatibility with operating systems. Neither tool supports other operating system than Microsoft Windows. Thus, users who have, for example, Apple Mac OS or Linux OS, may not be able to use those tools or the way to be able to use them might be too complicated. Considering these are the two top computer-aided translation tools, there is certainly room for improvement in the case of compatibility.

From the point of view of a first-time user, the interface of memoQ was much more overwhelming than the one in the SDL Trados Studio. On the other hand, in the process of translation itself, there is a "View pane" in memoQ, which gives the user a brief but pleasant overview of the translation. The interface in SDL Trados Studio has much simpler appearance and the environment was overall found more favourable than memoQ's because it was more user-friendly from the beginning.

CONCLUSION

This thesis analysed and described two paid computer-aided translation tools according to the same criteria so that their final evaluation would be as objective as possible. The theoretical part described and introduced CAT tools and it was a theoretical base for the analysis.

The selected CAT tools are both paid systems that are on the top of the market. Namely they are SDL Trados Studio's and memoQ's latest available versions. Firstly, the factors for evaluation of these tools were explained. Then, as the analysis was focused mainly on describing the first-hand experience of their user, the whole process of working with these tools is described, from installation to their user interface and key features. For the purpose of the analysis, a testing document was created to be used in the process of translation for both of the selected tools.

It is not an easy decision to choose appropriate computer-aided translation tool. It is not a cheap investment and since the key features are very similar in CAT tools, the price for which a perpetual licence can be purchased might be decisive factor for those interested in investing in these tools. If it would be that case, memoQ definitely wins in that aspect. SDL Trados Studio is more suitable for companies that translate large amounts of texts on a daily basis, and translators work on projects together and share translation memories.

It was found that even though computer-aided translation is undoubtedly beneficial for a professional translator, there are still space for improvement. It takes some time for a new user to be able to fully utilise the key beneficial features of computer-aided translation tools, such as translation memory and terminology base. The key features that would be adapted for a new user so that he or she could fully benefit from using the computer-aided translation tool from the start is something that should be examined in a future study.

Also, the lack of compatibility with operating systems was not expected. Neither of analysed tools supports other operating system then Microsoft Windows. SDL Trados however, at lease presents options for users who have Apple computers with Mac operating system or users with Linux, which is to access the tool virtually through other applications.

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LIST OF ABBREVIATIONS

CAT	Computer-Aided Translation
FAHQT	Fully Automatic High-Quality Translation
HAMT	Human-Aided Machine Translation
MAHT	Machine-Aided Human Translation
MAT	Machine-Aided Translation
MT	Machine Translation
SL	Source Language
ST	Source Text
TL	Target Language
TMS	Translation Memory Systems
TS	Translation Studies
TT	Target Text
U. S.	United States

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