The Impact of Technology on Translation

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Abstract

Technology has transformed the field of translation, transforming both the process and the profession. The impact of technology on translation has been complexed, guiding every aspect of the translation process, from preparation to delivery. Technology has assisted collaboration and communication among translators, project managers, and clients, simplifying the translation process and decreasing costs. This paper examines the impact of technological developments, including machine translation, computer-assisted translation tools, and artificial intelligence, on translation accuracy, competence, and availability. While these inventions improve productivity and decrease costs, they also elevate concerns about quality, linguistic nuance, and the role of human translators. The study highlights both the advantages and restrictions of technology in translation, highlighting the require for human proficiency in developing contextual accuracy and cultural significance. This study aims to supply a nuanced understanding of technology's role in shaping the future of translation.

Key words: Translation, Technology, Machine Translation, Impact, Linguistic Nuances.

Introduction

Translation is the process of converting the meaning of a text from one language to another language. Basically, translation is used to pass the message or knowledge or information. Translation is important to communicate with others, learning and understanding the different cultures of other people. Translation helps people to share their knowledge and ideas. We can

know the cultures and traditions, and about the languages of other people or states or communities through the translation.

Translation spreads the knowledge to the people; students can understand the language functions it means, students easily understand how their language functions. Translation helps with the growth and development of the tourism. Translation plays a huge role in sports field is to make it enjoyable for the people. They translate the commentary to the people in their mother-tongue. For example, nowadays in cricket, they telecast the commentary in Tamil for the Tamil people. This allows the people to connect with the sport on a deeper level, and understand the nuances of the game.

Technology has impacted the translation field. Through the Computer-assisted translation software, translation memories, and Machine translation tools, increases the efficiency and productivity. Translation technology allowing the translators to work faster, at the same time maintaining quality by automatically repeating tasks. At lats, the translation technology changing the low-cost in many departments can approach easily. Even though, the accuracy of machine translation, especially the nuances of contexts, requiring the human expertise. The purpose of this paper is to explore how technology affects translation and the difficulties of translators while using the technology tools.

Literature Review

Translation technology tools can increase productivity and efficiency in a multilingual context. Before the development of translation technology, the translation was done manually, the translators using the paper dictionaries and using their best judgment. J.C. Catford's "A Linguistic Theory of Translation (1965)" was written before the emergence of translation technology tools. He did not give the direct analysis of translation technology tools; however, his linguistic theory provides an understanding of the impact of translation technology. J.C. Catford introduced the "Shifts" in his work "A Linguistic Theory of Translation (1965)". We can understand how the technologies affect the translation process through his "Shift" theory.

J.C. Catford's two major types of shifts:

i) Level shifts

ii) Category shifts

i)   Level shift:

A level shift means that something in one language is translated into something different in another language. Catford classified the language into four types using Holiday's theory. There are: i) Lexis ii) Grammar iii) Phonology iv) Graphology. Obviously, the translation between phonology and graphology is impossible; it is not possible to have the translation between these two levels of grammar and lexis, so that is only possible to translate from lexis to grammar or from

grammar to lexis. Catford uses the verbal aspects between Russian and English for examples in his book "A Linguistic Theory of Translation". At the same time, Catford mentioned when we translate between other languages, examples of the incomplete level shift from the grammatical level to the lexical level are often discovered.

Example:

SL to TL lexis

SL: The movie is interesting

(here "interesting" is an adjective)

TL: intha padam suvaarasiyamaaga irukkirathu

(here "Suvarasiyamaaga" is an adjective noun)

In this example, the English adjective "interesting" when we translate into Tamil as a combination of adjective and noun will be "suvarasiyamaaga irukkirathu".

ii) Category shift:

When we discuss the translation, Catford focuses on the analysis of category shifts. He mentioned rank-bound translation and unbounded translation in the second chapter of his book, "A Linguistic Theory of Translation". Catford says in the target language the equivalent components are purposely restricted to below the sentence. We can refer to this as rank-bound translation. Catford preserves that rank-bound translation is considered "bad translation" (Catford 1965:76). For example, machine translation. It is usually used for translating word-to-word or morpheme-to-morpheme equivalence, but there are no phrases, clauses, or sentences in higher rank. Unbound translation is complete, and normal translation. In this, equivalent can be a free change up and down. According to Catford, unbound translation is astable or free translation. In this translation, we can fix the equivalent between the source language and target language in suitable ranks. Rank changes are not the only changes of this type in translation; there are also changes of structure, changes of class, changes of term in systems, etc. in this, some particular structure changes happen more frequently than rank changes. These are called category shifts. A discussion of the translation category is very important.

a) Structure-shifts:

Structure-shifts can be found at other ranks, for example in group rank.

Example:

English (SVO) to Tamil (SOV).

SL: The dog sat on the mat.

TL: **naai paayin mel amarnthirunthathu.**

Explanation:

The verb ("sat") moves from the middle of the sentence in English to the end in

Tamil.

b)   Class shifts:

        Class shifts involve in changes of word classes.

English (verb) to Tamil (noun)

SL: He likes reading.

TL**: avanukku vaasipathu pidikkum.**

Explanation:

The English verb "reading" becomes a verbal noun (**padippathu**) in Tamil.

c)Unit-shift:

        Unit-shift refers to rank changes. This shift involves changes in the size of the linguistic units being translated.

Example:

English (word) to Spanish (phrase

SL: He is homesick.

TL: Tiene nostalgia de su hogar. (He has nostalgia for his home).

Explanation:

The single English word "homesick" requires a phrase in Spanish.

   c)   Intra-system shifts:

        Intra-system shifts occur when both languages have the same system, but a different term is chosen within that system.

Example:

English (present perfect) to Tamil (simple past).

SL: I have eaten.

TL: naan saappitten.

Explanation:

These two languages have correct past tenses, but the most natural equivalent in Tamil is the simple past.

Methodology:

This paper implemented a descriptive method used to explain the impact of translation technology.

Translation Technologies:

Machine Translation:

Machine Translation uses AI translates a text from one language to another without human involvement. Machine translation use is efficient and speedy; it is appropriate for handling a huge text. In online chat and email, there only needs to be a quick translation. Machine translation can be helpful to frequently MT shows low quality; it will lead to mistakes in translation and the wrong deeds. MT is another one deficiency of culture situation. MT is not suitable for the translation of literary work and business. Statistics MT issued model statistics for translation. It analyses the corpus of text to identify patterns and relationships between words in the source and target languages. According to Koehn's (2010) statistics, MT is more flexible than MT, and it can handle languages with the problematic grammar structure. However, it need a huge corpus of bilingual data to train the system. In machine translation, three primary methods are used. They are:

1. Rule- base Machine Translation (RBMT)
2. Statistical Machine Translation (SMT)
3. Neural Machine Translation (NMT) (Koehn, 2009)

Rule-base Machine Translation (RBMT)

RBMT technology uses dictionaries and the rules of linguistics for creating translation. Language difficulty and the need for substantial linguistic ability to provide reliable translation can be limiting factors for RBMT systems.

Statistical Machine Translation (SMT)

SMT analysis massive corpus of multilingual text to produce the translation. The utilization of statistical models and the approach of high corpus are the important factors in SMT.

Nueral Machine Translation (NMT)

NMT technology used to produce a nuanced translation and used deep learning and artificial neural network. NMT examines the multilingual data models to develop the translation skills. In NMT

models, the source text is tremendous in a continuous representation using an encoder. In comparison to earlier methods, NMT model produce fluent and nuanced translation, because they are very accurate at catching complex structure of linguistics, situational problems and long-range dependencies. NMT models are remarkably versatile and adapt to various language pairs and domains. NMT shows significant promise to remove language barriers, developing international communication, and developing the understanding between cultures and getting better. (Sutskever etal., 2014; Bahdanau et al., 2014)

Computer-assisted Translation (CAT)

CAT is another technology used in translation, which is software used to access human translators during the translation process. We can use it for like terminology management, translation memory, and quality assurance by the program. CAT offers more benefits, which means more production, skill, improve consistency and accuracy in translation. CAT is used for cost savings, because CAT uses to translator to work quickly. It has some limitations; software can help for some activities only. It can't change the knowledge of the translator and his imagination. The translator's efficiency and expertise are important factors in the quality of translation. CAT essential tools involve:

1. Translation Memory (TM)
2. Quality Assurance Tools (QAT)
3. Terminology Management

Translation memory

TM technology is based on a database of previously translated text and passages saved, so they can be reused in new translations; it enhances consistency and quick translation. TM is a powerful tool in translation nuances and increasing the consistency; it is widespread nowadays. TM is starting to search the matches between the source language and saved segments. It recommends to the previously translated things. It is not only quickening the process of translation but also guaranteeing terminology and stylistic uniformity in various papers or projects. By adding new translations, the translator can update and expand TM. It will be resource for upcoming projects. By utilizing the power of TM, the translator can increase productivity, maintain quality, and provide correct translation in a useful way.

Quality Assurance Tools (QAT)

QAT consists of grammar and spelling checking and continuous checking. It is used to find out the mistakes and contradictions in translation. QAT contains software tools and methods to find out the problems of the translation process, translators and proofreaders mistakes, and the problems of the translation process. These programs were only used for grammar and spelling checks and terminology management. The translators can correct the mistakes immediately by using QAT; by

this, the translated text can be developed. QAT enables translators to correct the mistakes, so they can produce nuanced and improved translation for the audience (Popovi, 2015)

Terminology Management

Terminology management is one of the most important parts of the translation process. It helped preserve the nuances and continuity of special words and glossary. In terminology management maintenance and particular content or it handles stable words while using the translation process. The translator scans the reliable word database by terminology management. Due to this, the challenges are reduced and the quality of translation is increased. Like that, by using structured language, the audience of the target language can understand the content clearly. Furthermore, it is used to follow the stable language style for the translators who work in the same company or the same plan.

The impact of Technology on Translation

The human translators are still needed in the translation process, particularly in the development stage of machine translation. English word groups, significance for culture, and other language nuances are a huge challenge to machine translation. If reliable and quality translation is needed, then human translators will be needed, particularly in law, medicine, and technology translation. Human translators are required for translation; translation nuances and translation continuity have been upgraded by translation technology. translation memory, terminology management systems, and quality assurance are used to preserve consistency and cut down on errors. The translator's efficiency and productivity increase using the translation technology, particularly CAT tolls and MT. The reason for the translation technology is that it enables translators to concentrate on the part of complex translation areas it provides and provides enough information to the target audience, as well as makes the cultural match. The service of the translation approach is increased because online translation tools and sources are widely available.

Negative effects and regulations

These are some of the negative impacts and rules while utilizing translation. They are:

1. **Data security and privacy**

   Translation technology uses data in a huge manner, so the data must be secure and privacy must be ensured.

2. **Bias and Data training**
   Bias in data training, we see in the conclusion part of machine translation.

3. **Copyright and intellectual property rights**

By the use of MT, translated works may be considered as here-derived work; it may cross the rights of copyright. The translation software developers may claim ownership of the translation generator by their software.

Future development and challenges:

The technology integration will increase in translation works as expected, for the more the translation tools are enhanced with the help of computers, the more benefits they will have from the translation technology:

i) Productivity
ii) Accessibility
iii) Efficiency

But in the future development of this technology, there are some questions and challenges to be faced. There is a need to create hight quality databases. In any situation, it is important to balance the skills of human translators and the use of technology to produce the best possible translations.

Conclusion

Technology has brought significant changes in the translation field. With the help of MT and CAT tools, the translators can concentrate on the language problem and cultural nuances to develop. The impact of technology is deeply rooted in the translation, and its impact will develop in the future. The translators must develop their skills and work with the technology while as technology continuous to advance . This paper examines the impact of technology on translation and gives the future implications.

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