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# Artificial Intelligence Meet Language as Technology Advances in Translation Tools

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**Abstract.** AI is a technology emulating the intellectual capabilities of the human brain, including the ability to communicate using specific languages. This study was aimed at exploring how the initial concept and development of AI and language can transform into a tool aiding human in acquiring extensive knowledge, similar to current technology. To achieve this, the authors conducted a Narrative Review and Literature Study. The results of the study's Google Form survey on Artificial Intelligence showed that 89.5% of the respondents were aware of AI, while 10.5% of them were not. Additionally, 78.9% of the respondents preferred Google Translate as a translation tool, while 21.1% of them preferred UDictionary. Subsequently, 52.6% of the respondents frequently used the Translation Tool, whereas 47.4% of them rarely used it. Moreover, 15.8% of the respondents assumed a supplementary assumption of 50%, while 5.3% of them believed that 60% and 30% constituted the conclusion derived from the writings and surveys about the Artificial Intelligence Meet Language as Technology Advance in Translation Tools. It is concluded that the Translator Tool belongs to the category of AI machines, and AI translation results behave more like human translators than bilingual dictionaries.

**Keywords:** AI, Artificial Intelligence, Language, Translation Tools

## Introduction

Artificial intelligence (AI) enables machines to learn from experience, adapt to new inputs, and perform tasks in a manner comparable to that of humans [1]. The majority of AI applications that we hear about today, such as chess-playing algorithms and self-driving vehicles, rely primarily on deep learning and natural language processing [1]. Using this technology, computers can be programmed to perform specific duties by processing large quantities of data and identifying patterns within the data [2]. Machine Translation (MT) is a technology that automatically converts text from one language to another. Google Translate is an example of Machine Translation. To translate from one language to another, MT employs artificial

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intelligence or AI. Research on machine translation began in the middle of the 20th century. Multilingual aligned corpora have facilitated the development of translation systems with sufficient quality, having been a response to global conflicts and the desire to understand content from foreign countries. With the growth of the World Wide Web, sites such as AltaVista Babelfish expanded the audience for machine translation. Most modern translation websites still use SYSTRAN's "two text box" interface. As smartphone usage has increased, translation applications with additional features like speech recognition and augmented reality have emerged.

The field of artificial intelligence (AI) is concerned with developing machines or computers that can perform tasks as well as, or better than, humans [3]. This subfield of computer science has experienced rapid growth over the past two decades, reflecting the increasing demand for intelligent devices in industry and homes. Budiharto emphasized in his lectures that artificial intelligence is a critical area of computer science, crucial for the development of intelligent computer systems [4]. With current advancements, it is possible for AI to function similarly to humans and assist in performing tasks. Sutabri defines a system as a form of integration between two components, where each case within the system has a unique objective [5].

AI's purpose is to establish an expert system, a system capable of intelligent behaviour, learning, demonstrating, explaining, and recommending users, as well as to incorporate intelligence into machines rather than humans, resulting in a system that can comprehend, reason, learn, and behave like humans. Furthermore, an expert system is a form of artificial intelligence making extensive use of specialized knowledge to solve human-level problems requiring expert-level human knowledge [6]. It may utilize the knowledge of an expert, as well as knowledge found in books, periodicals, and individuals knowledgeable in a field. Computer Science, Biology, Psychology, and Languages all contribute to artificial intelligence. Logical thought, learning, and problem resolution are crucial stages in the development of artificially intelligent computers [7]. AI problem-solving techniques include organizing information and knowledge so that it can be easily accessible and understandable, modifiable to correct errors, and useful in a variety of situations despite still being inaccurate [8].

## Method

A survey method was used to collect the data and information obtained from Google Form links distributed to a number of relevant individuals, students. The reason for using this method was to ensure that social distancing regulations were still complied.

The following data collection procedures were staged: firstly. a literature review was conducted so as to provide additional insights for question-designing development for the upcoming survey. Subsequently, some of the filtered data and information gathered were transformed into a question set, then come into Google Form in multiple-choice problems. Eventually, its link was shared via each member's social media.

## Results and Discussion

Let’s keep on finding out the results of the survey data having been carried out by the group through the Google Form regarding Artificial Intelligence (Artificial Intelligence Machines) in the following charts (See Figures 1 and 2):

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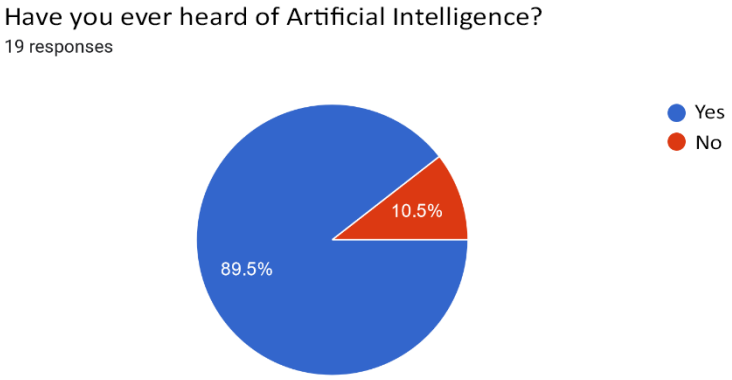


**Figure 1**. Artificial Intelligence (AI) Awareness

The figure above showed that 89.5% of respondents know and 10.5% of them had no idea about Artificial Intelligence.

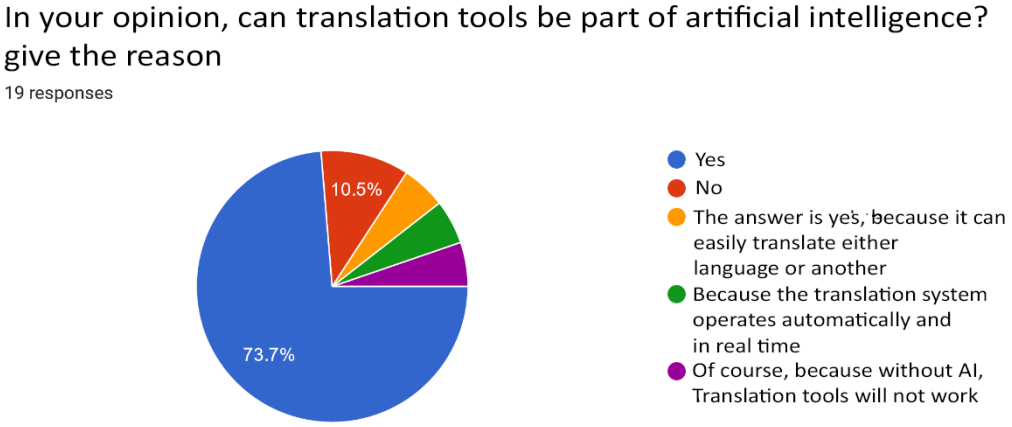


**Figure 2**. AI Awareness in Translation Tools

The preceding chart indicated that 73.7% of respondents believed that Translation Tools come under the category of Artificial Intelligence (AI), whereas 10.5% of them thought otherwise. The translation system can translate any language with ease and aid those who cannot. Due to the autonomous and real-time nature of the translation system, the translator utility automatically translates entire sentences without requiring human intervention. In fact, Translation Tools cannot function properly without Artificial Intelligence (AI). The following chart showed respondents' Translation Tool Preference (See Figures 3 and 4).

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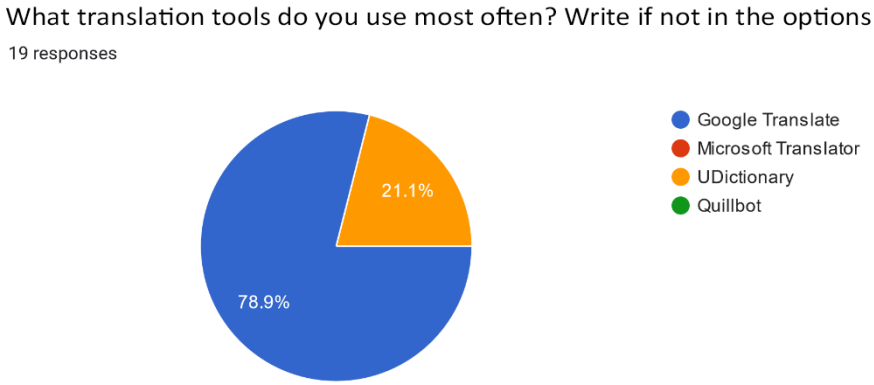


**Figure 3**. Translation Tool Preference

The chart above displayed that 78.9% of respondents made use of Google Translate as a Translation tool. On the other hand, 21.1% of them used UDictionary.

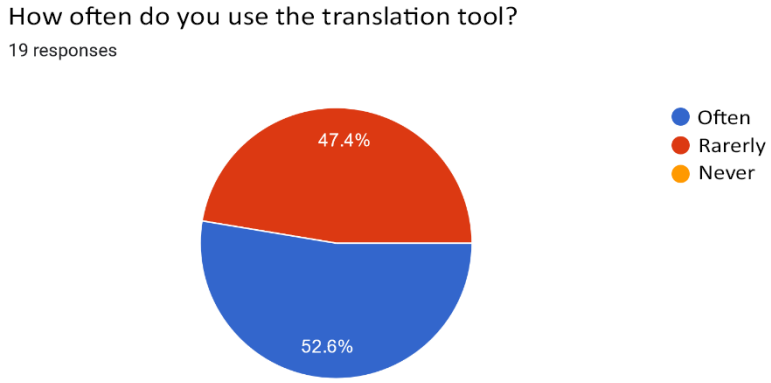


**Figure 4**. Translation Tool Frequent Employment

The diagram above notified that 52.6% of participants often employed the Translation Tools, whereas 47.4% of them rarely use the Translator Tools (See Figure 5).

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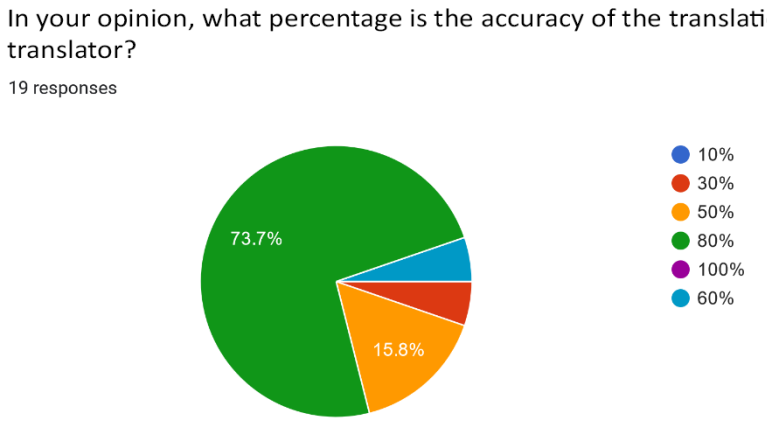


**Figure 5**. Accuracy Rate Translation Tool

The diagram above informed that 73.7% of respondents assumed an 80% accuracy rate in using the Translation Tools. Afterwards, 15.8% of them had an assumption of 50% accuracy rate and 5.3% had that of 60% and 30% accuracy rate in employing them (See Figure 6).


**Figure 6**. Translation Tool Difficulty Employment

The chart above conveyed the information that 84.2% of respondents had no difficulty in using the Translation Tools. Their three reasons from the remaining percentage of them were enumerated. First of all, the several Translator Tools that they used own the same system. Secondly, the lack of accuracy ended with a bit difficulty in that the language does not use V1, infinitives, and so on. Thirdly, Meanings-conveyed Translation Tools were frequently divergent from the ones in original language.

**Discussion**

AI is short for Artificial Intelligence. Today, technology reigns supreme on a global scale. According to the results of a survey of 3,000 CIOs (Chief Information Officers) [9], artificial intelligence emerged as the most mentioned and sweeping technology, edging out data and analytics, appearing to be catching up quickly. AI is laying a solid foundation and is expected to be the technology with the most human interaction in the near future. As a result, AI can offer the best Artificial Intelligence Certification in Delhi NCR.

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A robot is a programmable artificially constructed entity designed to perform various tasks [10]. When programmers successfully implant brains into robots, these robots possess human-like intelligence, similar patterns of behaviour, emotions, and feelings to humans', and are thus said to have Artificial Intelligence engineered into them [11]. In recent years, AI has made significant progress and is considered to have taken a large and promising leap forward. Through extensive research and development by IBM (International Business Machines), artificial intelligence has demonstrated the ability to replicate most tasks that were previously believed to be exclusive to humans, including debating [12].

The organization's Project Debate is aimed at facilitating human-AI debate to assist decision-makers in making more informed decisions. AI has made significant progress in recent years, and is now capable of a wide range of tasks, including arguing. However, it is still in its infancy and will continue being molded in the coming years to become the sole companion of humans and even outperform humans in certain jobs requiring maximum precision and consistency [13].

Artificial intelligence is a branch of computer science concerned with the development of autonomous tools and systems. Different varieties of AI analyze diverse data sets to identify patterns and determine which strategy or action has the highest probability of success. For example, Google Translate is the most recent machine translation model.

The engines determine how to accurately translate content by interpreting the intent of the source text using neural networks trained by machine learning. The Translate utility is remarkable, and AI in translation software focuses on translation management. This indicates that AI is directly related to automatic translation and is used to improve translation efficiency and quality in specific situations. Two main technological innovations have driven technological development in translation: computer-assisted translation tools and machine translation.

**Computer-Assisted Translation Tools**

Computer-Assisted Translation Tools (CAT Tools) arose in response to the need of businesses to translate their products for success on international markets [14]. Some software companies and other technology-related industries in the 1990s sought a way to increase translation productivity and maintain linguistic data consistency across an increasing number of languages and countries. These CAT Tools are the first significant technological transition and memory for contemporary translation endeavours. CAT Tools are not a machine translation program and has no predefined dictionary. They employ a translation memory (TM) to retain a translator's previously translated text, allowing subsequent texts with similar linguistic composition to utilize this TM in whole or in part [15]. For instance, translating the preceding text from English to Indonesian.

By dividing the source text into smaller, more manageable chunks, a computer-assisted translation tool expedites the translation process. It organizes these text segments in a manner making it simpler for the translator to effectively translate the text and saves time during the translation process. The computer-assisted translation tool stores the source and translated segments as separate translation units [16]. It stores these segments in a translation memory, a translation database. Translation units stored in the translation memory can be accessed and utilized at any moment, either within the same document or in a different one. Special search capabilities in computer-assisted translation tools enable the translator to access fragments of translated text even if two fragments do not exactly match.

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**Machine translation as technological development**

Machine translation is the automated translation of source material into another language without human intervention [17]. Even though it is a relatively novel concept to the broad public, Machine Translation has existed for decades. Google Translate, which we have already discussed, is one example. It is currently very different from the initial version they released. Its numerous features now qualify as Technological Development. It is now supported by audio translation [18]. The switch for the speaker can be activated. Then, it will convert your speech into the language of your choice. Additionally, the entire website can be translated into a different language. Simply input the complete URL of the website into the text field on the left side of its homepage. Then, after selecting Detect language, click Translate. In a few moments, the website's translated homepage will appear. As long as you continue viewing the site via its interface, all of its pages will be translated. Using the Translate toolbar's icons, you can alternate between the translation and the original text. Even, it can translate the contents in Word documents, PDFs, and other file formats.

**Conclusion**

The conclusion that can be drawn from the writings and surveys regarding the Artificial Intelligence Meet Language as Technology Advance in Translation Tools is that they belong to the category of Artificial Intelligence Machines in which the AI translation results behave more like human translators than bilingual dictionaries. The purpose of artificial translation is not to eliminate the need for human translators, but rather to assist them and streamline the entire process. Specifically, AI is used to help workers work smarter, not harder, and to enhance translation quality throughout the entire process without sacrificing quality.

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