

## **Analyzing the Performance of Gemini, ChatGPT, and Google Translate in Rendering English Idioms into Arabic**

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This study examines the translation of 155 idioms by different machine and AI translation systems, namely Google Translate, ChatGPT, and Gemini. Various sources were utilized to collect the data, including books, magazines, interviews with native English speakers, and various websites dedicated to English idioms. This data was analyzed based on a framework built on the taxonomy of Baker (1992). The quantitative part examined the frequency of translation approaches each program used to render the idioms. The qualitative part focused on selected examples to highlight the potential issues of each approach in conveying the style and sense-based features of the idioms. The findings showed that idiom translations were done through three main approaches: literal, sense-based, and idiom-to-idiom translation. Google Translate had the highest percentage of literal translation at 76%, followed by ChatGPT at 53%, while Gemini had the lowest percentage at 21%. For sense-based translations that use nonfigurative language, Gemini was in the lead at 63%, followed by ChatGPT, with a wide gap at 35%. Google Translate had the least sense-based renditions at a mere 11%. When it came to translating idioms using figurative language, Gemini once again was in the lead with 16%, followed closely by ChatGPT at 13%, with Google Translate right behind at 12%. The study concludes that although there is vast improvement and advancement in technology, machine translation has yet to master nonliteral language such as idioms.

**Keywords:** Google Translate; ChatGPT; Gemini; Idioms; Arabic; English; Translation

Artificial intelligence and digital technology are reshaping all aspects of life, highlighting how technology now permeates every venue of our daily existence (Nasim, AlTameemy, Ali, & Sultana, 2022; Zia-ud-Din & Elhajraoui, 2023). Translation is a complicated task, and its quality is affected by both the properties of the text and the competencies of the translator. Additionally, translation is a prominent tool of communication, especially in this globalized age. Moreover, the advancement of technology also allowed for this process to be automated through machine and artificial intelligence translation (Farghal & Haider, 2024). While this was popularized due to its efficiency and simplicity, it is essential to ensure that its results show quality as well. Furthermore, this quality must not be limited to overly simplistic texts. Idiomatic expressions represent one area that could challenge machine translation and affect the quality of its outcomes. Since the meanings of idioms are nonliteral, they require certain strategies in their rendition, which differentiates their translation from general translation. Whether machine translation can properly apply these strategies has yet to be determined, and thus it is uncertain whether they are an adequate tool for communication.

Language is the most prominent form of communication between humans in which people structure their thoughts by syntactically arranging semantically meaningful utterances (Ellis, 1999; Kasirzadeh & Gabriel, 2023). While words are usually building blocks that are strung together to express a thought, some forms are fixed structures with pre-agreed-upon meanings. This is the case for idioms that carry a specific meaning that is usually unrelated to their linguistic constituents (Gehrke & McNally, 2019). Since idioms do not derive their sense from their words, and instead, their meaning is understood from culture, use, and familiarity, translating them from one

language to another poses a challenge (Almrayat, Farghal, & Haider, 2024)

Translation is a cross-linguistic and cross-cultural tool of communication, but it is impacted by linguistic and cultural gaps (Haider & Shohaibar, 2024; Shuhaiber & Haider, 2023; Weld-Ali, Obeidat, & Haider, 2023). Translators must, therefore, work around these differences to convey the sense and sometimes style of the source text. Furthermore, due to these differences, exact equivalence is not possible. Therefore, one type of equivalence may have to be sacrificed to prioritize the other. Generally, sense-based equivalence is prioritized, but this can be affected by external factors like text type and target audience (Haider, Saideen, & Hussein, 2023). Thus, when translating idioms, it is ideal to balance style and sense, but sense should remain the priority when this balance is not possible (Farghal & Al-Hamly, 2015). While style has some significance, it is not equal to that of sense. This indicates that literal or word-for-word translations should be avoided (Farghal & Shunnaq, 1999).

Additionally, the translation of idioms is a complex process that begins with the recognition of idioms, after which the translator must decide on the proper strategies to best render the idiom in the target language (Farghal & Saeed, 2022). This is a challenging area of translation that indicates skill and knowledge, yet it is still expected from machine translations even though machines do not share the cognitive abilities of humans (Baziotis, Mathur, & Hasler, 2022). Machine translation has established itself as a useful and widely used tool (Zakraoui, Saleh, Al-Maadeed, & Alja'am, 2021). Recently, more tools have become available and are quickly spreading; many of these utilize artificial intelligence to synthesize more human-like translations (Wang, Wu, He, Huang, & Church, 2021). Despite the advancement of technology and the spread and increasing quality of these programs, they have yet to be perfected (Al-Salman & Haider, 2024).

Translating idioms is an issue of strategy. However, with machines, it becomes an issue of processes as even artificial intelligence sometimes may not make logical and informed choices (Baziotis, Mathur, & Hasler, 2022). Since the process of translating idioms begins with their recognition, if a phrase is not identified as an idiom, it cannot be translated properly. This is because translation is a linguistic and cultural form of communication that is concerned with transferring sense. Since idioms present sense as a unit and not something that can be analyzed and inferred by breaking down their constituents, a failure to recognize their idiomatic nature is a failure to recognize their sense. As a result, literal translation may be involved when it is not the ideal available process (Almahasees, 2021). In brief, due to its complexity, the translation of idioms is one of the areas where machine translation often falls short (Almahasees, 2021). This paper, therefore, by analyzing which strategies are employed by the different machine translators and their effectiveness in conveying meaning and style, attempts to answer the following research questions:

- (1) How do machine translation tools (Google Translate) and AI systems (*ChatGPT* and *Gemini*) render English idioms into Arabic?
- (2) What translation procedures are most common in each of the investigated systems (*Google Translate*, *ChatGPT*, and *Gemini*)?

The first question represents the qualitative area of this research and deals with pinpointing the employed translation strategies and analyzing their accuracy, style, and acceptability. The second question relates to the quantitative area of the research and determines the frequency at which each strategy was employed when each system rendered the data presented in the corpus.

Answering these questions will hopefully help provide the insights needed to improve the quality of machine and AI translation, which is becoming increasingly relevant both in practice and as a research topic.

## Literature Review

This section includes previous research in the fields relating to this study. First, machine translation, its history, and properties are discussed. Studies on the translation of idioms, its challenges, and strategies are included as well. The final subsection highlights previous empirical studies focusing on the translation of idioms by both human and machine translators.

### *Machine Translation*

Translation, in a traditional sense, is a process in which texts are transferred from one language to another. This process is mainly done by human translators who employ linguistic and cultural knowledge to strategically form

their renditions. The advancement of technology created a new type of translator that is easily accessible and provides translations in mere instants (Akasheh, Haider, Al-Saideen, & Sahari, 2024). This type of translation is known as machine translation and has been increasing in accuracy, competence, and popularity. Hutchins (2005) documented the inception and development of machine translation and stated it started out as a concept in the seventeenth century but only became an actual possibility in the twentieth century. Machine translation was pioneered in the late 1940s based on the coding developed during the Second World War. During this time, machine translation was processed as automatic bilingual dictionaries; however, there were issues in the program as it lacked systemic methods. Thus, the development of machine translation in the 1950s and 1960s focused on rule-based systemization in a manner that allowed machine translations to function as aids for human translators.

From the late 1960s to the 1980s, machine translation expanded as its uses expanded, and it began to include a wider variety of languages and areas. Then, in the 1980s, many machine translation types emerged from around the world and continually developed. Following is the 1990s, in which system-based statistical methods and corpus and example-based methods were further advanced. Additionally, translation memory systems were also developed at this time. In the late 1990s, instant machine translation through the internet became available but was characterized by low quality. In the 2000s, machine translation mainly took on the form of statistical machine translation and has since been improving based on the wider availability of corpora and different software. According to Wang, Wu, He, Huang, and Church (2021), corpora-based machine translation has dominated the field of machine translation since the 2000s. Additionally, corpus-based methods include three forms: example-based (EBMT), statistical (SMT), and neural machine translation (NMT). Neural machine translation works by mapping a semantic representation of a language and then employing an attention mechanism to provide translations. Zhang and Zong (2020) found that neural machine translation has become the modern-day standard for machine translation.

Although machine translation has improved vastly, it still contains some obstacles, resulting in issues in quality, which, as stated by Popović, Arcan, and Klubička (2016) increase with the difference between the source and target languages. Popović (2018) listed inflectional errors, rewordings, omission, addition, and mistranslation as errors that can be found in unrevised machine translations. According to Zakraoui, Saleh, Al-Maadeed, and Alja'am (2021), machine translation faces challenges stemming from linguistic issues such as gaps and discrepancies as well as technical issues. These technical issues may result from low resources, domain mismatch and specificity, vocabulary, sense disambiguation, sentence length, and word alignment. Other issues include dialectal variation, cultural nuance, and context.

Regarding AI translation, Khoshafah (2023) argued that programs like ChatGPT have made translation easier and more accessible, yet their capabilities in more specialized fields than general translation still require evaluation and improvement as they struggle with complexities. Furthermore, Jiao, Peng, Zong, Zhang, and Li (2024) argued that the prompt or instructions given to artificial intelligence effect the outcome of its translations.

Additionally, Elfqih and Monti (2024) also argued that though the translations of large language models and AI systems ChatGPT and Gemini have improved greatly, they have yet to perfect their renditions, especially in specialized fields and contexts. Finally, Manakhimova et al. (2023) found that the translation of idioms is one area where large language models (LLM) such as ChatGPT provide some of the weakest results.

### *Translation of Idioms*

According to Tirkkonen-Condit (2002), translating metaphorical language is more demanding than the translation of literal language, as the two exist in different cognitive domains. On a similar note, Dankers, Lucas, and Titov (2022) described the non-compositional nature of idiomatic expressions as a challenging area in translation. This is because the literal meanings of an idiom's components do not align with the meaning of the idiom itself, although this is not the case with all idioms (Kovács, 2016). Instead, idioms can be classified on a spectrum of compositionality, with more opaque idioms being simpler to understand and translate. Furthermore, Mancuso, Elia, Laudanna, and Vietri (2020) argued that the literal plausibility or implausibility of an idiom affects its comprehensibility. In addition, Liontas (2002) found that idiom comprehension and transfer are affected by context and lexical idiomatic level as well as the opacity between the two languages. Since the meaning of idioms cannot be deduced from their constituents, Meryem (2010) stated that an idiom should be treated as a single translation unit for their sense to be conveyed. Contrarily, Min (2007) argued that literal translations should be prioritized to reflect the source culture, but other factors should be considered as well, such as context and target readers. Mustonen (2010) stated that the translation of idioms begins with their recognition; once they are identified, their meaning can be understood. After this, the translator must decide on the best method for their transfer. Sari and Jumanto (2018) argued that this method is informed by the nature and type of the idiom. Qiang et al. (2023) linked idiom comprehension with language proficiency and found that paraphrasing and

translation to non-idiomatic language aids in their understanding.

According to Volk and Weber (1998), the distinction of idiomatic language use is not only a challenge for human translators but an issue in machine translation as well. Fadaee, Bisazza, and Monz (2018) found that the translation of idioms is still a weakness in machine translation despite the vast improvement in the general translation quality. The non-compositionality of idioms may contribute to translation errors in machine translation, as stated by Shao, Sennrich, Webber, and Fancellu (2017), who noted that idioms may be rendered literally instead of reflecting their meaning. Baziotis, Mathur, and Hasler (2022) similarly found that machine translations of idioms tend to be literal. Gaule and Josan (2012) listed cultural problems and ambiguity in the sense of the word and phrase level as areas that could negatively impact the quality of machine translation.

Since the meanings of idioms are larger than their components, different strategies were suggested to adequately translate them. According to Baker (1992), idioms can be rendered with a target language idiom with a similar sense and form or one with a similar sense but a different form. Additionally, the rendition may be an unidiomatic paraphrase. Finally, in a few cases, omission is a valid option. Ahmadi and Ketabi (2011) listed similar strategies in addition to literal translation and loan translation. Furthermore, Chen (2009) described some tactics to translate idioms. These include literal translation, free translation, explanation translation, compensatory translation, borrowing, and an integrated approach.

### ***Empirical studies***

This section includes previous studies on machine translation as well as the translation of idiomatic expressions and fixed or figurative language. By having speakers of three languages assess the analyzability of idioms, Bortfeld (2003) examined the comprehensibility of literal translations of idioms and found this was affected by the analyzability of the source text idiom. In the same vein, Carrol, Conklin, and Gyllstad (2016) examined the role of exposure and familiarity in the understanding of idiomatic expressions and formulaic language and found that they increase comprehension even among non-native speakers who typically find such language challenging. With a focus on metonymy, Zibin, Altakhaineh, and Hussein (2020) also found that comprehension of non-literal items is affected by conceptual and linguistic knowledge with exposure and conventionalization improving comprehension as well. Abu-Ssaydeh (2004) examined the strategies used in the translation of English idiomatic expressions into Arabic and reached conclusions related to their significance and effectivity. Regarding frequency, paraphrasing was the most employed strategy. Other significant strategies included literal translation, semantic equivalence, and omission. Literal translation proves to be faulty as it results in foreign and often nonsensical language. However, the use of literal translation has resulted in the acquisition of some foreign idioms that have become part of the recognized lexicon.

Motallebzadeh and Tousi (2011) examined how translators deal with idiomatic expressions in novels by comparing the language employed in the source and target texts and found that they may render the source text idiom through a target text idiom or paraphrase to convey the meaning with nonidiomatic language. To compensate for the level of idiomaticity in the text, nonidiomatic phrases were translated with idioms in the target language.

Salamah (2015) argued that the complexity of translating idioms begins with the difficulty in understanding them but found that translation students may struggle with their transfer even after understanding their meaning. Likewise, Ali and Sayyiyed Al-Rushaidi (2017), through a translation test along with a short survey found that issues in translating idioms can be a result of a failure to recognize an idiom and understand its meanings, a failure to convey said meanings and reliance on literal translation and omission without compensation.

By comparing human translations with the translations of four prominent LLMs, Li and Chen (2019) found that despite their improvement, AI translations have yet to achieve the quality found in human translation, indicating they still require additional development. Yet, Wang (2023) found that many still rely on AI translation even if its capabilities do not match those of human translators. Additionally, Khasawneh (2023) found that while AI can play a role in intercultural communications it is still restricted by drawbacks and limitations.

Hidayati and Nihayah (2024) investigated whether students preferred employing ChatGPT, Gemini, or Google Translate and found they preferred and often relied on artificial intelligence systems. The study also argued that these AI systems provided more nuanced and context-driven translations in comparison to Google Translate renditions, which tended to be more literal. Putera and Sujana (2024), however, suggested that Google Translate outperformed Gemini when it came to the translation of journal abstracts. This indicates that AI does not always surpass traditional machine translation and the outcomes may be affected by the type and qualities of the source text. Li (2024) on the other hand, argued that there are no significant differences between the translation quality of LLM and NMT, yet found that the

quality of the translation may be affected by the type of text, the language pair, and the direction of the translation in this language pair.

Since it has become common to employ machine translation and artificial intelligence in the field of translation it is essential to properly reflect on the quality of its renditions. This gauges its proficiency and reliability while highlighting areas that would benefit from further development. Additionally, it is relevant to explore areas that are both commonly found in language and considered a challenging aspect of translation to ensure that the capabilities of machine translation are not limited to general or straightforward translation. This study, therefore, explores the subtle differences between various websites, namely *Google Translate*, *ChatGPT*, and *Gemini*, in how they render idiomatic expressions. In addition to assessing the accuracy of the translations generated by these tools, the research carries out an extensive examination to identify and contrast the common methods that are used by each of these well-known machine translators when processing idioms.

### Method

This research quantitatively and qualitatively examines the translation of idioms by inputting more than one hundred and fifty examples into three translation programs, namely *Google Translate*, *ChatGPT*, and *Gemini*. The following prompt was used with *ChatGPT* and *Gemini*: “*Translate the following English idiomatic expressions and proverbs into Arabic. Avoid literal translation*”.

In the quantitative section, we calculate the frequencies and percentages of translation strategies used by each system. This contributes to highlighting each program’s tendencies and provides insights into expected results. Additionally, the qualitative section examines the potential positive and negative issues resulting from each approach, assessing acceptability in sense and form. Some of these issues are related to shifts in meaning and style. The categorization is based on the taxonomy proposed by Baker (1992) which was then divided into further subcategories as elaborated in the framework below.

#### *Framework*

The idioms are aligned with their different renditions, and the translation process employed is examined. The translations are thus categorized based on the process followed by the investigated systems. For the quantitative section, the categorizations are counted to see which is more prominent for each program. These categories are:

- (1) literal and word-for-word translations,
- (2) paraphrasing the sense with a common language, and
- (3) translation through figurative language.

These categories are further divided into subcategories. For *literal translation*, this includes (1A) senseless word-for-word translations that retain the original idioms' lexical components, (1B) word-for-word translations that use literal translation but mistake homograms and provide incorrect equivalents, (1C) literal translations that use reduction and omission of some of the source text components, (1D) literal translations with other translation errors, and finally (1E) literal translations that still make sense in the target language. *Sense-based translations* that use common language are classified based on accuracy as (2A) accurate translation, (2B) translations with slight inaccuracies, and (2C) mistranslations that do not relate to the meaning of the idiom. The use of *figurative language* in translation also falls into three categories: (3A) the rendition of an idiom through a target language idiom with a similar sense and phrasing, (3B) the rendition through an idiom with a similar sense but different phrasing and (3C) the use of non-idiomatic figurative language.

#### *Investigated Translation Tools/ Websites*

##### *Google Translate*

*Google Translate* has long stood at the front of machine translation as the most widely used tool globally. The tool was launched in 2006 and provides quick, accessible, and user-friendly translation services in over a hundred languages. The system relies on neural machine translation and improves quality and accuracy with deep learning models. While the program can provide accurate translations of good quality for common straightforward language use, it has yet to master cultural nuances and figurative aspects of communication.

##### *Chat GPT*

*ChatGPT*, developed by OpenAI, is a versatile language model that may provide translation as one of the many language processing tasks it performs. While *ChatGPT* possesses some translation capabilities, it is not dedicated

to this field. This may limit its proficiency, especially in specialized contexts.

### *Gemini*

The final examined program is the still lesser-known *Gemini*, which was formerly known as *Bard*. Unlike the previously mentioned fully automated programs, *Gemini* combines machine translation with human review and modification. The hybrid collaborative approach increases the quality of translation by emphasizing linguistic diversity and competence as well as cultural sensitivity.

### *Corpus of the Study*

A diverse range of sources was utilized to compile a comprehensive list of idiomatic expressions for this study. These sources included books, magazines, interviews with native English speakers, and various websites dedicated to English idioms. A primary source that significantly contributed to the compilation of idioms was the EF English Resources website, specifically the section on English idioms (<https://www.ef.edu/english-resources/english-idioms/>). This online resource provided an extensive list of idioms, categorized by usage frequency and familiarity to native English speakers. These categories were instrumental in selecting idioms for the research, and they helped establish a clear framework for classifying the idioms based on their commonality in everyday conversation.

The collected idioms comprise 155 idioms that are extremely common in everyday conversation and often heard in movies, TV shows, and daily interactions. This category serves as the primary focus of the study, aiming to investigate how AI programs handle these frequently used idioms.

The compilation of idiomatic expressions involved a multi-pronged approach. The selection combined random sampling with expert evaluation to ensure a diverse and representative dataset that represents broader linguistic and cultural nuances and patterns despite its limited size. Nine Native speakers of English from some of the most prominent variants (3 Americans, 3 British, and 3 Australians) were also consulted to ensure the idioms selected for the study genuinely resonated with common conversational usage. Additionally, the resources available on the EF English Resources website provided a structured foundation, categorizing idioms according to their frequency of use. The inclusion of idioms from books and magazines added further diversity to the collection.

## Results

The following section includes two parts. The first is a quantitative analysis where the translations are categorized, after which the frequency of each categorization is gauged. The second involves a qualitative analysis of the renditions where the translation approach is examined and discussed.

### *Quantitative Analysis*

The translation of idioms was done through three main processes: *literal translation*, *sense-based translation*, and *translation through idioms*. While *literal translation* translates based on wording and the constituents of the phrase, the other two types of translation deal with the phrase's idiomatic sense (Table 1).

**Table 1**  
*Translation process statistics*

Category	No.	Sub-Category	Google Translate %	GPT %	Gemini %
Literal And Word for Word Translations	1	Word for word (senseless)	50%	35%	9%
	2	Word for word (mistaken sense)	12%	1%	1%
	3	literal reduction	2%	2%	2%
	4	literal miscellaneous errors	0%	2%	0%
	5	Literal makes sense	13%	13%	9%
<b>Total</b>			<b>77%</b>	<b>53%</b>	<b>21%</b>
Paraphrasing the Sense with Common Language	6	Sense for sense	9%	27%	53%
	7	Sense for sense but inaccurate	1%	4%	5%
	8	Sense for sense mistranslation	1%	4%	5%
<b>Total</b>			<b>11%</b>	<b>35%</b>	<b>63%</b>
Translation Through Figurative Language	9	Idiom for the same idiom	10%	11%	11%
	10	Idiom for different idioms	2%	1%	5%
	11	Figurative language	0%	1%	0%
<b>Total</b>			<b>12%</b>	<b>13%</b>	<b>16%</b>

These results, in Table 1, show that *Google Translate* had the highest tendency for literal translations and equivalence errors. *ChatGPT* had the highest rate of errors based on altering the source text, with *Google Translate* making the least changes and, therefore, the least errors in this area. Among the three programs, *Google Translate* had the highest percentage of literal translation at 77%, followed by *ChatGPT* at 53%. Finally, *Gemini* had the lowest percentage at 21%. The majority of *Google's Translate* literal translations were senseless and followed a word-for-word approach. These included literal word-for-word translations at 50% and an additional 12% in which the chosen equivalent did not represent the intended meaning of the wording in a literal sense, as polysemic words and holograms were confused. This was the highest recorded percentage of this type of error among all the programs. Such mistakes indicate that the program typically translates by word and has an issue with context. However, since the program followed the wording of the source text closely, it was less likely to make other errors, which were found in the renditions of the other programs, with only 2% of its renditions containing improper use of reduction. Not all of the program's literal translations were senseless, as 13% of the overall translations were literal but conveyed the sense of the source text. This is only possible in compositional idioms if the literal translation contains no errors or mistranslations. Although it did not reach the same extent, *ChatGPT* also showed a high rate of literal translation. 35% of *ChatGPT's* translations were senseless word-for-word translations. Only 1% of the renditions contained translation errors based on mistaken sense. Reduction errors were at a similar rate of 2%, but it must be noted that since *ChatGPT* provided multiple renditions for each idiom, there is a higher number of renditions with this error. The renditions also contained an additional 2% of various translation errors. Finally, 13% of the renditions were literal but represented the meaning of the idiom properly. *Gemini* showed the least inclination towards literal translation. Only 9% of the renditions were literal and senseless. Moreover, only 1% contained mistaken sense errors, and 2% contained reduction errors. These rates are similar to those of *ChatGPT*. Finally, since the literal translation was not as frequently employed, only 9% of the translations were senseful and literal.

For sense-based translations that use nonfigurative language, *Gemini* was in the lead at 63%, followed by *ChatGPT*, with a wide gap at 35%. *Google Translate* had the least sense-based renditions at a mere 11%. *Gemini* had the highest rate of accurate sense-based renditions at 35% but also had the most instances of sense-based translation errors, with 5% inaccurate translations and 5% mistranslations. This is marginally over the rates of *ChatGPT*, in which both categories represent 4% each. Accurate sense-for-sense renditions were rare in *Google Translate's* renditions, as only 9% of the translations were rendered this way. *Google Translate's* unlikeliness to employ sense-based paraphrasing also resulted in the least errors in this field, with only two inaccurate renditions and two mistranslations representing 1% each.

When it came to translating idioms with figurative language, this was mostly done as idioms through idioms in the target language. *Gemini* once again is in the lead with 16%, followed closely by *ChatGPT* at 13%, with *Google Translate* right behind at 12%. Yet, it must be mentioned once again that due to the difference in the number of provided renditions, although the percentages are similar, the idiomatic translations provided by *Google Translate* only present about half of the number of provided idiomatic translations by the other two programs. The majority of the idiom replacements were translating the source language idiom as an idiom with similar phrasing in the target language. Using a different idiom was employed mostly by *Gemini* at 5%, followed by *ChatGPT* and *Google*, which each used this process three times, representing 1% and 2% of the renditions. Finally, *ChatGPT* contained figurative translations that were not idioms at 1% and was the only program to do so.

### ***Qualitative Analysis***

This section examines the translation processes used to translate the idioms and their effectiveness in rendering their meaning. Some examples are chosen to showcase the strengths and weaknesses of the rendition types.

*Google Translate* is one of the most popular machine translation services, and until recently, it had no real competitors. Despite this and the fact it has existed for nearly two decades, its translations are still flawed. While *Google Translate* has been the go-to translation program, more alternatives have recently become available and are increasing in popularity. The AI program *ChatGPT* has a wide range of uses and a growing user base. Although its main purpose is for chatting, it also has translation options and capabilities. As evidenced in the data, *ChatGPT's* translation of idioms differs from that of *Google Translate*. *ChatGPT* is not the only AI chatbot that provides translation services. Like the previously discussed program, *Gemini* has the ability to translate through multiple languages. Unlike the other machine translators discussed here, when it comes to idioms, *Gemini's* translations do not gravitate to a literal word-for-word approach. Instead, most examined examples conveyed the sense of the idiom instead of its wording.

**Literal and Word-for-Word Translations**

A major issue in machine translation is a lack of capability to understand and correctly render idiomatic expressions, which results in a reliance on literal translation, as shown in Tables 2, 3, and 4.

**Table 2***Literal and Word-for-Word Translations by Google Translate*

No.	Literal Translation	Idiomatic Expressions	Meaning	Google Translate	Literal Translation
1	<b>word for word (senseless)</b>	On the ball	Doing a good job	على الكرة	On the ball
2	<b>word for word (with mistaken sense)</b>	Take a rain check	Postpone a plan	خذ فحص المطر	Take the rain test
3		Cutting corners	Doing something poorly in order to save time or money	زوايا القطع	Cutting (adj) corners
4	<b>meaningful literal translations (Literal, but Makes Sense)</b>	No pain, no gain	You have to work for what you want	لا ألم، لا ربح	No pain, no gain
5		Time flies when you're having fun	You don't notice how long something lasts when it's fun	الوقت يطير عندما تحظى بالمرح	Time flies when you're having fun

Table 2 contains just a few examples that highlight *Google Translate's* tendency for literal word-for-word translation. This strategy typically results in renditions that do not reflect the meaning or function of the original idiomatic phrase, with some renditions being completely nonsensical. Example 1 is translated literally, with each source text element represented by its equivalent in Arabic. Regardless of the one-to-one lineup of the elements, there is no equivalence in meaning. From a literal standpoint, a ball is a physical object, and the preposition of place "on" indicates that there is something above its surface. This is the sense conveyed by the target text but is not the sense conveyed or intended by the source text. Instead, the desired sense is one of affirmation, which cannot be derived from this rendition.

Table 2 also includes examples of *word-for-word translation* by Google with *mistaken sense*. Examples 2-3 indicate that the issues with the program's word-for-word translations may go deeper than misrepresenting the function of the idioms. Example 4 showcases shortcomings where "*take a rain check*," which refers to postponing plans, is rendered as "*take a rain test*." Once again, the program failed to distinguish between homographs and selected the wrong equivalent, leading to two layers of mistranslation. These renditions contain a misrepresentation of both intended meaning and literal meaning and can, therefore, be classified as neither functional nor formal equivalence. In example 3, the program misclassified parts of speech in its literal rendition. "*Cutting corners*" refers to taking shortcuts instead of fully completing a task. In this phrase, "cutting" is a verb, and "corners" is its object. The gerund is mistranslated as an adjective that modifies the noun "corners." This results in a rendition that represents "corners for cutting," another failed attempt at formal equivalence. These examples show how machine translation can fail at "word-for-word translation" by misconstruing the sense of a word and not differentiating between homographs.

Table 2 illustrates how not all literal translations are nonsensical and may even convey the meaning of the source text (examples 4-5). The phrasing in example 4 is straightforward. Additionally, the simplified structure, which is unconcerned with grammar, leaves little room for confusion. The meaning is also direct and can be inferred from the linguistic elements of the saying alone. Thus, by just knowing the meanings of the words "pain" and "gain" and having knowledge of negation, one can understand the message that states, "Without effort and sacrifice, there is no achievement. This simple wording can easily be transferred into Arabic directly without modification to reflect the same sense. In example 5, the idiom expresses through metaphor how it feels as if time passes quicker when the person is enjoying themselves. This metaphor of "time flying" is a universal one and can thus be transferred into another language like Arabic. Confusion is further avoided since the referent exists explicitly in the figurative language as time is evoked directly through its word form.

Although it does not reach the degree of the previous program's tendency, *ChatGPT* also has an issue of providing nonsensical literal word-for-word translations, as shown in Table 3.



**Table 3***Literal and Word-for-Word Translations by ChatGPT*

No.	Literal Translation	Idiomatic Expressions	Meaning	Chat GPT	Literal Translation
1	Word for Word (Senseless)	Speak of the devil	The person we were just talking about showed up!	تحدث عن الشيطان	Speak of the devil
2	Mistaken Sense	You can't have your cake and eat it too	You can't have everything	لا يمكنك الحصول على الكعكة وأكلها	You can't get your cake and eat it too
3	Literal Reduction	Once in a blue moon	Rarely	مرة في القمر	Once in a moon
4	Literal Miscellaneous Errors	Barking up the wrong tree	To be mistaken, to be looking for solutions in the wrong place	ينبغي عليك التوجه للشجرة الصحيحة	You should head to the right tree
5	Literal Makes Sense	Your guess is as good as mine	I have no idea	تخمينك مثل تخميني	Your guess is like yours

Examples 1 shows an instance where *ChatGPT* transferred the meanings of the words individually and not as a whole meaningful unit that expresses something larger than the sum of its parts. The idiom "speak of the devil" is a reduced form of the expression "speak of the devil, and he shall appear." This expression is used when someone arrives unexpectedly, coinciding with their mention and discussion. This expression is used to refer to a person and not the literal devil. In this example, *ChatGPT* renders the words entered into it and thus provides a word-for-word translation of the half expression. Since this saying is not used by Arabs, Arabic speakers are unlikely to automatically complete the utterance and understand its meaning. Instead, the rendition only invokes the literal sense "which lacks relevance. Example 2 shows how the meaning can differ based on the wording, even if no true alterations are made in the literal translation process. The idiom "you can't have your cake and eat it too" indicates that one must choose between two exclusive options. The literal meaning states one cannot physically possess a cake after it has been eaten. Therefore, one can either keep the cake or consume it, as the two options cannot be fulfilled simultaneously. This idiom is allegorical in a sense, as the cake can symbolize bigger things and other choices in life. Yet, the wording of the original expression contains some ambiguity as the word "have" has multiple senses, including eating, which is not what is intended in this case. Although *ChatGPT* does not mistakenly represent this sense. "Have" is translated as "get," which makes the line nonsensical as one must first "get" or acquire a cake in order to consume it later.

Example 3 shows how the program uses the translation strategy reduction. Reduction is a shortening and simplifying tool where the translator retains only the most essential information and removes excess filler words. The example contains the phrase "once in a blue moon" to describe something as rare. A "blue moon" is the second full moon of a month and thus can be seen as a measurement of time. In reality, this stretch of time is not as long as the expression suggests. Since it is an idiom, the meaning need not be precise. *ChatGPT* renders this expression in a literal way but omits the adjective blue. This rendition does not accurately represent the sense of the idiom, and the slight modification further removes the sense of the rendition from that of the source text. The phrase "once in a moon" is not only one that is not used by Arabic speakers, but it also neither aligns with the wording of an idiom in a foreign language nor contains anything that indicates rarity. If meaning were to be analyzed from the provided words alone, "moon" could be seen as a metonymy for the night. The resulting meaning would imply that something happens "once a night," a frequency that is extremely common, the opposite of the rarity implied by the original idiom. Example 4 shows a rendition of the literal sense of the phrase "barking up the wrong tree." It takes a literal yet not word-for-word approach. The translation is based on the implicatures of the idiom's components. The existence of a "wrong" tree suggests the existence of a "correct" tree. Thus, the line is changed to instruct the person to search for said correct tree. This rendition fails to recognize that the trees in question are metaphorical and do not actually exist.

Example 5 shows that literal translations can potentially reflect the meaning of the source idiom. The idiom states, "Your guess is as good as mine," to express a lack of knowledge. This line is typically used as an answer to a question. Questions are often an expression of a lack of knowledge on a subject; this reflects the state of the asker. By equating their knowledge with that of the asker, the answerer indicates that they, too, lack the desired information. This meaning is thus clear through the wording, which enables the literal rendition to make sense.

Although Gemini did not rely on literal renditions to the same extent as Google Translate, it still employed this

technique in several examples. Table 4 includes examples that show the different levels of acceptability in Gemini's application of literal translation.

**Table 4***Literal and Word-for-Word Translations by Gemini*

No.	Literal Translation	Idiomatic Expressions	Meaning	Gemini	Literal Translation
1	<b>Word for Word (Senseless)</b>	Don't beat a dead horse	Move on; this subject is over	لا تضرب حصاناً ميتاً	Don't beat a dead horse
2		Every dog has his day	Everyone gets a chance at least once	كل كلب له يومه	Every dog has his day
3	<b>Literal Reduction</b>	The best thing since sliced bread	A really good invention	أفضل شيء منذ اختراع الخبز	The best thing since sliced bread
4		Shape up or ship out	Work better or leave	عدل أو ارحل	Modify or leave
5	<b>Literal Makes Sense</b>	Ignorance is bliss	You're better off not knowing	الجهل نعيم	Ignorance is bliss
6		It is a poor workman who blames his tools	If you can't do the job, don't blame it on others	العامل السيء يلوم أدواته	The bad worker blames his tools
7		Look before you leap	Take only calculated risks	فكر قبل أن تقفز	Think before you leap

Examples 1 and 2 show how this program relied on literal translation in a few cases, which resulted in meaningless renditions. Both examples reference animals, which do not relate to the meaning of the idiom. If the sense was to be transferred, the mention of the animals should not appear. However, that was not the case, as shown above. Example 3 not only relies on a meaningless literal rendition but also omits a key element of the original expression. The removal of the adjective changes the referent as it specifies a certain type and not the generic that existed long before. Since the idiom relates to time, altering the referent on the timeline alters its meaning. Moreover, since the expression is completely idiomatic, its sense does not relate to its content, and since formal equivalence was chosen, all elements should have been retained to maintain the link with the source text.

The idioms in the first two examples are phrased simply and straightforwardly. In example 4, "shape up" means improve, and "ship out" means leave. Thus, the literal meanings of the idiom's components align exactly with its meaning, even if they are not the most common expressions. This is also the case with example 5, where "ignorance" means "not knowing" and "bliss" means "something good." Therefore, "ignorance is bliss" can be paraphrased into "Not knowing is something good." Since the idioms can be intralingually translated through paraphrase and synonym substitution, direct interlingual translation is possible. Thereby, the word-for-word translation provided by Gemini can also function as a sense-for-sense translation. The nature of example 6 is metaphorical and allegorical. This means that although the meaning is not expressed directly in the phrase's components, it can still be inferred from them. This suggests that a direct translation that does not reflect the larger sense more directly may still be adequate in delivering the text's intended message. Example 7 advises thinking and evaluating before taking risks. This is done through the metaphor "look before you leap," where jumping stands in for the risky action and looking represents the evaluation. Since this symbolism can easily be inferred, there is no issue in retaining it for the target audience, as was done in this rendition.

### Paraphrasing

While the majority of *Google Translate* renderings relied on literal word-for-word substitution, there were cases where the function was rendered instead of the individual components. Table 5 shows examples of sense-based translations using a common language.

**Table 5***Sense-based translations by Google Translate*

No.	Sense-based Translations	Idiomatic Expressions	Meaning	Google Translate	Literal Translation
1	Sense for sense	Spill the beans	Give away a secret	أفش السر	tell the secret
2		Let the cat out of the bag	Give away a secret	إباحة السر	Reveal the secret
3		It's raining cats and dogs	It's raining hard	انها تمطر بغزارة	It's raining heavily
4		Break a leg	Good luck	حظاً موفقاً	Good luck

## RENDERING ENGLISH IDIOMS INTO ARABIC

5	Sense for sense but inaccurate	Call it a day	Stop working on something for the day.	أوقف العمل	Stop the work
6		When it rains, it pours	Everything is going wrong at once	عندما يصيبك شيء قد يشتد	When something happens to you, it may intensify
7	Sense for sense mistranslation	Bite the bullet	To get something over with because it is inevitable	تحمل الألم	Endure the pain

Examples 1 and 2 both refer to telling secrets without containing the words "tell" or "secret" or any of their synonyms and near-synonyms. Yet both are translated as "tell the secret," reflecting the meaning that cannot be found in their linguistic components. Example 3 contains the word cat, though the meaning is unrelated to the animal. The idiom also references dogs, but since neither animal is connected to the phrase's meaning, neither should appear in a rendition of its sense. Therefore, the sense-based rendition states, "It's raining heavily." In the rendition of "break a leg" in example 4, the unpleasant literal meaning is put aside as the positive intention of the saying is portrayed.

Straying from the original wording may have its risks, as the provided renditions may result in inaccuracies (examples 5 and 6). The rendition of example 5 as "*stop the work*" reflects the intended meaning of the source text and not its individual words; this rendition, however, leaves out an element of the sense. Thus, this rendition is not entirely accurate as it excludes the temporal area included in the original sense. Example 6 states, "*When it rains, it pours*," which means that when bad things happen, the unfortunate situation is taken to the extreme. The Arabic rendition does not follow the original wording and does not reference rain, but it does not accurately reflect the meaning either. Instead, the translation states, "When something happens to you, it may increase," with no reference to whether this something is bad or good.

The last two examples in Table 5 show how some minor errors can result in mistranslation and nonequivalence. Example 7 means to power through something difficult. The Arabic translation simply states, "*endure the pain*," which does not accurately represent the wording nor its meaning.

Although *ChatGPT* frequently employs literal translation, it conveys sense at a nearly similar rate, as shown in Table 6.

**Table 6**  
*Sense-based translations by ChatGPT*

No.	Sense-based Translations	Idiomatic Expressions	Meaning	Chat GPT	Literal Translation
9	Sense-based Translations	He's a chip off the old block	The son is like the father	هو مثل والده	He is like his father
10		To get bent out of shape	To get upset	ينفعل أو يثور	reacts and overflows
11	Sense-based Rendition, but Inaccurate	Pull someone's leg	To joke with someone	تهكم على شخص	Taunt someone
12		Make a long story short	Tell something briefly	قصة قصيرة	Short story
13		Let someone off the hook	To not hold someone responsible for something	أعطه فرصة أخرى	Give him another chance
14	Sense for Sense Mistranslation	That ship has sailed	It's too late	ذاهب بعيداً	Going far
15		On the ball	Doing a good job	على اطلاع	In the know

*ChatGPT* provided renditions for examples 9 and 10, each of which properly conveyed their sense instead of their wording. Example 9 provides a rendition related to time even if it was not directly mentioned in the idiom and does not needlessly refer to boats or travel, which are present in the original wording. Likewise, example 9 connects the sense with familial relations and the inheritance of qualities without making false allusions to carpentry. The rendition of example 10 means "reacts and overflows" (related to strong emotions), which is associated with "losing control."

For idioms 11-15, *ChatGPT* strayed from the wording of the source text in the translation process. If translating components is not the goal, it can be assumed that the aim is to translate sense. This was not always a

successful process. As the examples highlight, the program at times provided proper translations of the idiom's meanings but also provided inaccurate renditions at others. In example 11, the idiom was translated as "taunt someone." The rendition does not fully represent the connotations of the source text, where the nature of the interpersonal relation is more friendly, while the translations give off slightly malicious connotations. In example 12, an inaccurate translation was provided based on reduction once again. "To make a long story short" was translated as "short story," which does not reflect the meaning. Furthermore, it cannot even be classified as a full or meaningful sentence. Example 13 means to let someone go unpunished for a misdeed they committed. The rendition states, "Give him another chance". It does not follow the original wording nor convey the exact meaning of the idiom. However, through implicature, it reflects its meaning indirectly. To clarify, "give him another chance" can represent "Do not punish him and give him another chance."

Idiom 14, "that ship has sailed," is used to express the meaning of a missed chance by comparing the opportunity with a ship that the person was too late to board and thus has left without them. Therefore, the meaning is not related to traveling by sea but instead to time and opportunity. Neither the literal nor functional meaning was reflected in the rendition of the phrase as "going far away." Example 15 is another instance of mistranslation where neither the literal nor functional senses are reflected. The idiom includes a preposition and references a ball but is used as an assessment and assertion of the quality and accuracy of one's work or thoughts. The translation, however, describes a person as knowledgeable, which is a meaning that is not connotated with the source idiom.

In *Gemini*, Table 7, is a reminder that not all renditions are equal in equivalence, even within the same approach. The Table highlights different levels of accuracy and acceptability within sense based or paraphrasing strategies.

**Table 7**

*Sense-based translations by Gemini*

No.	Sense-based Translations	Idiomatic Expressions	Meaning	Gemini	Literal Translation
16	<b>Sense for Sense</b>	Wrap your head around something	Understand something complicated	فهم شيء ما	Understand something
17	<b>Sense for Sense but Inaccurate</b>	Cut somebody some slack	Don't be so critical	أنظر إليه بعين العطف	Look at him through the lens of compassion
18		Under the weather	Sick	غير مرتاح	Uncomfortable
19	<b>Sense for Sense Mistranslation</b>	Get something out of your system	Do the thing you've been wanting to do so you can move on	التخلص من شيء ما	Get rid of something.

The idiom example 16 uses unrealistic imagery of wrapping one's head around a concept to represent understanding it. This meaning behind this idea was represented directly by Gemini as "understand something." This example thus illustrates that Gemini has the potential to adequately represent the sense of an idiom through regular language and paraphrase.

Examples 17 and 18 also contain issues of accuracy in one of their provided renditions. For example, the phrasing in 17 is changed entirely in the rendition: "Look at him through the eye (lens) of compassion," but the meaning of forgiveness can still be inferred. Similarly, example 18 is translated as "uncomfortable," which is removed from the context and is only vaguely related.

Example 19 shows that the issues in translation may go beyond vagueness and inaccuracy and may be classified as mistranslations. The rendition did not align with the meaning or wording of the source idiom. Instead, a new, unrelated meaning is provided. In example 19, the idiom advises performing an act to quench the desire to do it, while the rendition alludes to getting rid of a physical object.

### ***Translation Through Figurative Language***

While literal translation retains the form of the original idioms but loses its sense, paraphrasing using regular language portrays the desired meaning but removes the figurative qualities of the idiom. Replacing the source language idiom with target language idioms of the same meaning may retain both the sense and style of the original idioms. Table 8 contains idioms that are similar in the source and target languages.

**Table 8***Translation Through Figurative Language by Google Translate*

No.	Figurative Language	Idiomatic Expressions	Meaning	Google Translate	Literal Translation
1		That's the last straw	My patience has run out	هذا هو القشة الأخيرة	That's the last straw
2		bird in the hand is worth two in the bush	What you have is worth more than what you might have later	عصفور في اليد خير من اثنين على الشجرة	bird in the hand is worth two in the bush
3	Similar Idioms in the Source and Target Language	Kill two birds with one stone	Get two things done with a single action	ضرب عصفورين بحجر واحد	Hit two birds with one stone
4		An ounce of prevention is worth a pound of cure	You can prevent a problem with little effort. Fixing it later is harder.	درهم وقاية خير من قنطار علاج	An ounce of prevention is worth a pound of cure.
5		Birds of a feather flock together	People who are alike are often friends (usually used negatively)	الطيور على أشكالها تقع	Birds of similar shapes fall
6		Add insult to injury	To make a bad situation worse	يزيد الطين بلة	Increases the wetness of the mud
7	Different Idioms that Portray the Same Sense	To make matters worse	Make a problem worse	لزيادة الطين بلة	To increase the wetness of the mud
8		Haste makes waste	You'll make mistakes if you rush through something	في العجلة الندامة	In haste, there is regret

Another way literal translations can be meaningful is when the same or at least a similar idiom is used in both languages (examples 1-5). Example 1 contains the idiom "the last straw," which is a shortened form of the saying "the last straw that broke the camel's back," an expression that exists in both English and Arabic. As the longer phrase is commonly used by Arabic speakers, the shorter phrase's meaning can be inferred. Yet, the rendition still contains grammatical errors based on gender agreement, using masculine terms where feminine terms are needed. This affects the acceptability of the rendition but does not influence the understanding of its meaning. Example 2 is the idiom used to indicate that what one has for sure is better than future possibilities, even if they seem greater as they are not ensured. The English idiom is "a bird in the hand is worth two in the bush," while the Arabic states that "a bird in the hand is better than ten on the tree." Google renders the English idiom "a bird in the hand is better than two on the tree." This rendition retains the number of the English idiom but changes some aspects to align with the Arabic idiom. This makes this rendition a combination of literal translation and cultural adaptation. Example 3 is similar in that it replaces "kill" with "hit" to better match what is used in Arabic. This is also the case with example 4, where measurements of weight are substituted with measurements of money. In example 5, the renditions begin to stray from literal translation as while the meaning is the same, the phrasing differs. Both idioms express how likes gather by comparing them to birds of one kind gathering, yet the sentence formations differ. This indicates that this rendition may be literal in terms of sense but is not a word-for-word translation.

Some idioms express certain concepts that can be conveyed through idioms in other languages. Unlike examples 1-5, while the concept is one in both languages, the idioms differ. This suggests the fact that the program here is translating the sense of the idioms and not their form (examples 6-8). Examples 6 and 7 are different ways to express the same concept of worsening an already bad situation. Though they convey the same meaning, the two phrases do not overlap in their linguistic content. Yet both phrases were rendered the same by the program, with a third phrase that does not linguistically overlap with either of the source texts. This rendition is the Arabic idiom "increase the wetness of the mud." Example 8 renders the idiom "*haste makes waste*" as the second half of the Arabic idiom "in caution there is peace, and in haste there is regret."

The idioms in Table 9 exist in both English and Arabic and are used to express the same meaning.

**Table 9***Translation Through Figurative Language by ChatGPT*

No.	Figurative Language	Idiomatic Expressions	Meaning	Chat GPT	Literal Translation
9	<b>Idiom for the Same Idiom</b>	You can't judge a book by its cover	This person or thing may look bad, but it's good inside	لا يمكنك الحكم على كتاب من غلافه	You can't judge a book by its cover
10		Curiosity killed the cat	Stop asking questions	الفضول قتل القط	Curiosity killed the cat
11	<b>Figurative Language</b>	Out of the frying pan and into the fire	Things are going from bad to worse	من مصيدة إلى مصيدة	From trap to trap
12		A dime a dozen	Something common	كأوراق الشجر	Like leaves

In both languages and cultures, example 9 is used to state that judgments should not be made based on superficial appearances. Example 10 is used to discourage intrusiveness in both cultures as well. Example 11 uses metaphor to express going from one bad situation to another. In the idiom, this is done by the equation with fire. The translation expresses this sense by equating bad situations with traps. This expression is not a common or traditional one; thus, it is only metaphorical and not idiomatic. Example 12 also replaces the metaphor in the idiom with a new one without relying on established expressions. Idioms are considered a source of challenge in translation as their semantics complicate the relation between linguistic content and meaning. Thus, translators must navigate linguistic and cultural differences to decide between equivalence types and translation strategies, including domestication and foreignization. The manner in which idioms are handled reflects the translator's understanding, competence, and skills. With machine translation, the employed processes are not a result of choice and strategy. Instead, the equivalences are extracted from the machine translator's database. With artificial intelligence chatbots, this database grows based on language use patterns, which could result in multiple equivalents. However, AI does not have a full grasp of context and, therefore, may face issues in identifying idiomatic language. This results in issues in accuracy and consistency as well, which means an idiom may be rendered properly at times but mistranslated at others without guaranteed results for the user.

As discussed above, literal translations and explanations of meaning are not the only approaches to translating idioms. Sense-for-sense renditions may also include the use of idioms and not just direct language, as Table 10 shows.

**Table 10***Translation Through Figurative Language by Gemini*

No.	Figurative Language	Idiomatic Expressions	Meaning	Gemini	Literal Translation
13	<b>Idiom for the Same Idiom</b>	Curiosity killed the cat	Stop asking questions	الفضول قتل القطعة	Curiosity killed the cat
14		Calm before the storm	Something bad is coming, but right now, it's calm	الهدوء قبل العاصفة	The calm before the storm
15	<b>Idiom for Different Idioms</b>	A stitch in time saves nine	Fix the problem now because it will get worse later	درهم وقاية خير من قنطار علاج	A dirham of prevention is better than a pound of treatment
16	<b>Figurative Language</b>	A dime a dozen	Something common	مثل الرمل على شاطئ البحر	Like sand on the beach

Examples 13 and 14 combine word-based and sense-based equivalence by rendering the source text idioms as their exact target text counterparts. This is only possible since the same idiom is used in both languages. In example 15 the program provided a sense-based rendition. This rendition did not follow the original wording but did not use casual language either. Instead, the source language idiom was rendered with a different target language idiom, which is used in similar contexts. The rendition is idiomatic and has equal acceptability and accuracy regarding meaning but differs stylistically. In example 16, the rendition uses figurative language, comparing the abundance of the thing to the great number of sand grains on a beach. Unlike the previous examples, this figurative language is metaphorical but is not an idiom or proverb.

## Discussion

The quantitative analysis regarding literal translation showed that the results of Google Translate aligned with expectations, indicating a strong tendency towards literal translation. This agrees with the findings of Baziotis, Mathur, and Hasler (2022). Although ChatGPT and Gemini did not employ literal translation to the same extent as Google Translate, it was still found in their renditions, it was especially evident in ChatGPT. Therefore, ChatGPT, like Google Translate, displays the connection between machine translation and literal translation despite its employment of AI technologies. The lesser tendencies of Gemini toward literal translation align with Hidayati and Nihayah (2024) suggestion that AI can provide more nuance and creativity compared to the literalness associated with traditional machine translation.

However, since all programs were able to provide some accurate translations following recommended strategies like paraphrase and the use of target language idioms it is evident that the misuse of literal translation is a result of a failure to recognize or identify the idiomatic nature of the source texts. This affirms the arguments of Almahasees (2021) and Farghal and Saeed (2022) who suggested that a proper translation of an idiom begins with its recognition, thus posing the identification of idioms as the first challenge of this task.

The quantitative analysis also indicated that among the nonliteral translations, there was a tendency to paraphrase rather than employ figurative or creative language. This falls in line with the assessments of Baziotis, Mathur, and Hasler (2022) and Li and Chen (2019) who found that machine translation has yet to match the capabilities and creativity of human translators.

When it came to the qualitative analysis, the results indicated that the choice of strategy or approach alone is insufficient in determining the acceptability of a rendition. For instance, a common belief is that literal renditions should be avoided (Farghal & Shunnaq, 1999). While this aligned with many examples, there were some, though few, in which literal renditions were able to portray the desired sense. However, the results do align with the suggestions of Liontas (2002) and Sari and Jumanto (2018) who stated that the transfer of idioms is affected by their content and form. Furthermore, while it is often agreed upon that paraphrasing is useful in the clarification of idioms (Sari & Jumanto, 2018), the analysis highlighted that machine translations may not provide the intended meaning of an idiom in their paraphrasing. This again highlights that accuracy is based on the proper retention of sense rather than the choice of strategy as errors can be found even when the recommended strategies are applied.

Finally, it should be noted that Gemini yielded the best results in this study despite other programs surpassing it in others. This emphasizes that the capabilities of machine translations are greatly affected by many factors, including language pairs, translation direction, and text type, to name a few. This shows that it cannot truly be said that one program is superior, as each has its own strengths and weaknesses in different areas. This also suggests that the improvement of AI must be targeted to fit various needs and cannot be generalized.

## Conclusion

Translating idioms is an issue of strategy. However, with machines, it becomes an issue of processes as even artificial intelligence cannot make logical and informed choices. The process of translating idioms begins with their recognition. If a phrase is not identified as an idiom, it cannot be translated properly. This is because translation is a linguistic and cultural form of communication that is concerned with transferring sense (Al-Khalafat & Haider, 2022; Debbas & Haider, 2020). Since idioms present sense as a unit and not something that can be analyzed and inferred by breaking down their constituents, a failure to recognize their idiomatic nature is a failure to recognize their sense. This creates the first issue in machine translation. As a result, literal translation may be involved when it is not the ideal available process. Usually, the translation of idioms is classified as one of four processes: translating the idiom as an idiom with a similar sense and phrasing, translating an idiom with an idiom of similar sense and different phrasing, translating an idiom with regular language to convey its sense, and literal translation that reflects the wording. The first three strategies deal with sense, while the final deals with wording. With human translators, the choice between equivalents is a conscious decision informed by contextual factors based on understanding. Machine translation lacks this understanding; thus, the translations are based on either the wording or previous translations. The reference to previous translations and translation banks can align machine translation of idioms with their sense. Despite machine translations' ability to translate sense, this is not based on understanding, which results in two problems: a lack of distinction between when a phrase is being used in its literal or idiomatic sense and a lack of consistency in the translation of AI programs that are constantly expanding and "learning." These issues intermingle and result in AI programs providing multiple renditions of different levels of accuracy for one idiom without any logical basis.

Furthermore, the lack of logic results in other translation issues that separate human and machine translation. Since machine translation is not strategic, the translations should be classified by result and not process. This creates three main categories: literal translations, regular language translations that reflect sense, and figurative translations. Literal translations can be further classified as senseless or meaningful word-for-word translations, word-for-word mistranslations and nonequivalence, reduction-based erroneous literal translations, and other flawed literal translations. Regular language translations that reflect sense can be categorized based on accuracy as accurate translations, slightly inaccurate translations, and mistranslations. Finally, there is the use of figurative language in which an idiom is translated as an idiom with a similar sense, either of a similar or different wording, or the use of nonidiomatic figurative language such as metaphor.

Additionally, since the renditions are nonstrategic, it is difficult to determine if meaningful literal translations or if renditions, where the idiom exists in both languages, differ from senseless literal translations. Finally, translation programs based on AI chatbots are more likely to employ nonliteral translation. The issue remains in accuracy as the results do not go under sufficient quality evaluations. This showcases that although there are vast improvements and advancements in technology, machine translation has yet to master nonliteral language, such as idioms.

The results, therefore, imply that machine translation remains unreliable as a translation service. Thus, its usage should be limited or otherwise supplemented with human interference. This indicates that the capabilities of machine translation have yet to meet its demands and expectations. Therefore, this paper recommends that AI machine translation be enriched with further targeted training that emphasizes the different areas of language and communication, such as the strategies available for the translation of idioms. While AI systems are capable of evolving with little interference, providing specific guidance could guarantee that their evolution is one of improvement that meets expectations, which is vital in these early stages. The paper also recommends that further studies be made in more specific areas of idiom translation, such as studies based on specific cultures or the influence of context and text type on the products of machine translation in comparison to human translation.

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