



Pragmatic and Cultural Preservation Analysis of English and Indonesian Idiom Translation Using AI Machine Translation

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Abstract

Translation becomes a crucial part of learning and understanding a new language. This research attempted to examine the efficacy of AI machine translators QuillBot and Google Translate in addressing pragmatic and cultural meaning in the transcription of idioms between English and Indonesian. An idiom could be misinterpreted by human beings because it does not carry the literal meaning; this research aims to uncover a significant challenge of AI in translating the idiom. This research used a qualitative method with a descriptive analysis approach. Forty idioms (20 English and 20 Indonesian) were selected through purposive sampling and chosen based on the criteria of (1) having a non-literal meaning, (2) showing cultural or social reflection, and (3) being frequently used in daily communication. The idioms were translated using two AI machine translators, Quillbot and Google Translate, and then compared to each other. Translated texts were analyzed to assess pragmatic value through Grice's Cooperative Principle and evaluate cultural preservation using Nida's Dynamic Equivalence. The result showed that MT often provided the lexical translation from SL and struggled to keep the meaning pragmatically and culturally from the SL to TL. The findings of this research uncover that an advanced AI machine still cannot replace the implicature of human translation. Moreover, this research contributes to language learning by highlighting the limitations of machine translation, deepening the understanding of the role of pragmatics, cultural value equivalences, and raising awareness of the nuances in language that cannot be accurately interpreted by AI.

Keywords: AI Machine Translation; Cultural Preservation; Google Translation; Pragmatic; QuillBot

Introduction

In the era of sophisticated technology, translation turns into a tool which functioned not only as an activity of how people understand something through oral understanding. Interpreting the meaning of a word is not as simple as knowing the lexical meaning of each word, sometimes the challenges found in translating involve how the meaning is not interpreted directly through words, but there are intentional and implicature meanings that differ from what the lexical meaning says.

An idiom is an expression of words in language that has a unique pattern, and sometimes the meaning of idioms cannot be interpreted literally, which creates challenges for some people who do not know about the culture or the expressions that are commonly used in a region or group of people. In the context of the linguistic branch, there are a lot of cases and research about translating or interpreting idiomatic expressions because it is crucial to uncover the meaning behind that expression. It requires a deep understanding to know and to adjust the meaning with the context of the source language (SL) culture (Irawan, 2025; Corina, 2021). Some idioms that cannot be interpreted literally, like "Break a leg," people who are at a lower level of English ability will make an implicature to break someone's leg. However, the intended meaning is to support and to

ask someone for their spirit in certain cases, and this brought the challenges for the translation process.

Answering the challenges of translating and interpreting cultural words, the phenomena seen by translators are not only human but also machine translation (MT) in interpreting the right meaning carried by technical words or a simple symbolized word in a sentence. Multiple interpretation is the reason why MT sometimes lacks perfection in providing the right meaning brought by the source language (SL). Therefore, in today's advanced world, there are new types of MT called Neural Machine Translation. After the previous system based on statistical data, these types can understand contextual translation more because NMT adapts the artificial neural networks to learn cross-linguistic relationships automatically (Wang et al., 2022; Stahlberg, 2020). However, despite these advances, NMT still struggles to capture deeper meanings.

This NMT needs to be analyzed in terms of implicature, because how advanced a system is really crucial to notice the limitations of it, so that there are no more overly dependent and addiction using the tools that simply have the limitation in providing the real meaning interpreted for the Target Language (TL). Although the MT has already adapted the new system, it must be researched clearly, as Google Translate and DeepL produce fluent translations. They still face challenges in interpreting implicature, idiomatic expressions, and context-dependent meaning, essentially in providing the proper implicature and semantic value for the result of translation (Kadhim, 2024). To understand these limitations more deeply, it is essential to analyze them through the lens of Grice's Cooperative Principle, which explains how meaning is inferred in communication, and Nida's Dynamic Equivalence, which emphasizes the naturalness and impact of meaning in translation.

While Neutral Machine Translation systems can generate grammatically correct and fluent sentences, they often fail to capture the pragmatic and cultural nuances that shape true understanding. This is where theories like Grice's Cooperative Principle (1975) and Nida's Dynamic Equivalence (1969) become crucial. Both frameworks highlight that translation is not only about transferring words, but also about conveying intention, tone, and context, elements that machines often overlook. By applying these perspectives, the analysis can reveal how meaning functions dynamically between the source and target languages, ensuring that the translation preserves both sense and communicative effect.

Ensuring that the meaning functions dynamically, MT has to provide the closest meaning that met with the equivalences of what the SL is trying to imply. Therefore, to ensure that MT provided the closest meaning from SL to the TL, this study brought a theory from Nida (1969) related to the dynamic equivalences.

Several studies opened up the same object of research about translation by using MT. Dewayanti (2024) explored the benefit of the accuracy of AI MT in translating Indonesian cultural idiom to English, which revealed the result that each MT has a limitation in providing the precision to understand the meaning of cultural idiom, while Sembiring et al. (2025) compared the translation technique used between AI and human translators in the "*Gadis Kretek*" novel. This research detected that AI MT could not recognize cultural context and tends to do a literal translation, which resulted in inaccurate translation for cultural perspective rather than human results. However, Sharoufi & Al-Fadhli (2025) found that despite MT maintaining eloquence in translating lexical patterns and syntax, MT, like Google Translate, interprets words literally without deeper analysis and less comprehension of the context, emotional value, and cultural value in the text; they convert the words but miss the message. Unlike the 3 previous three studies, Mughal et al (2024) found a small difference in findings that MT models like ChatGPT presented translation results that represent both figurative and cultural perspectives of SL, while still having challenges in translated idioms that contain symbolized words, which represent the beliefs of a culture.

The phenomenon of difficulties in translating idioms and non-literal meanings is being researched by others. According to Silalahi & Damanik (2025) ambiguity in a sentence can be solved by the context of sufficient linguistic, situational and cultural context, but what they have tried to prove is whether MT can address the phenomenon. However, QuillBot could be the answer, which functions as a paraphrasing tool, has a different system background of systems like Google Translate. QuillBot functions as an AI tool that is simply far more advanced than just collecting statistical data.

This is also related to the basic function of QuillBot as a paraphrasing tool, which tends to paraphrase the result of the translation as well as the SL means. In this case, QuillBot should be able to not just translate literal words, but also be expected to paraphrase it, and it needs to be studied whether, as a paraphrasing tool, QuillBot able to answer these, or because QuillBot is AI NMT that functions more rather than collecting data.

Considering the result of previous research, they only set a focus on how NMT translates lexical and how possible they will perceive it into the right meaning as reflected from the SL. The problem of inconsistencies needs to be uncovered, whether this NMT really preserves the meaning of the cultural text or not, and some stated the challenges, while some believe NMT provides inaccuracy in translated SL. This is important to uncover due to the need and importance of future studies on NMT development. Nevertheless, this leaves the gap to see where NMT can imply the real meaning of idioms, cultural representation of idioms across English. Therefore, this study will focus more on how NMT aligns with the value of pragmatic and cultural preservation.

Research Methodology

This research aimed to gather the detailed interpretation of how the translated result of machine translation, by testing the NMT products, Google Translate and QuillBot, to see if those MT systems met with the concept of pragmatic and cultural preservation. Detailed interpretation is needed by the researchers, so this research employed a qualitative method by using a descriptive qualitative research design (Cresswell, 2013). This is related to the purpose of the study because this research does not require numerical data and will bring a deeper understanding of the topic.

The data gathered from the result of translation idiom (Indonesia to English & English to Indonesia) through two types of machine translation, Google Translate and QuillBot, as a representant for NMT and AI MT to seek how these 2 type of MT handle with idiom that fulfil these criteria like (1) idioms that cannot be understood literally, (2) idioms that reflect cultural or social behaviour, and (3) idioms commonly used in daily or social media. The data collection process to get these types of idioms is by doing a reading and searching the common idioms used in news articles and social media, whether there are new idioms are used by society in their life. Moreover, searching for previous study that used idiom as its object of study as well. The data also gathered from personal observation in social media to seek the new idioms that appear and are usually used by people in social media.

The data collection process was started to study previous research that used idiom as the object of the study, and to get the sample of Indonesian and English idioms that need to be translated, by using purposive sampling. There are 30-40 idioms that were identified, but after applying the criteria, the final number of idioms was selected in 20 idioms for both English and Indonesian. These idioms were obtained from reading, observing, and note-taking the idioms that commonly appear in these days, also from several previous studies. For the English idioms, it would be double-checked with the Oxford Dictionary of Idioms (2004). The following are the idioms accompanied by the sources from which they were derived.

Table 1. Source of English Idioms

No	English Idioms	Previous Study
1.	<i>Back the wrong horse, Blow up in face, Different kettle of fish, Live from hand to mouth, Keep wolf from the door, To turn a blind eye, Bite the bullet.</i>	Vula & Tyfekçi (2024)
2.	<i>Cut to the chase, Cold turkey, Jump on the bandwagon</i>	Jepri (2019)

The source of idiom from Vula & Tyfekçi (2024) is relatable to fulfill the requirements of idiom, where the idioms are derived from various authentic sources of English culture, such as movies, books, and debates. The second source from Jepri (2024), where the idioms were sourced from posts and comments from Twitter, Instagram, and Facebook. However, Indonesian idioms were identified based on findings from previous research, which served as a reference for selecting and validating the idiomatic expressions used in this study.

Table 2. Source of Indonesian Idiom

No	Indonesian Idioms	Previous Study
1.	<i>Kantong kering, Gulung tikar</i>	Amalia et al (2025)
2.	<i>Banting setir, membuang muka, angkat kaki, adu domba, durian runtuh, adu mulut, cuci otak, darah daging.</i>	Baryadi (2013)

These idioms were collected through the method of reading, observing, and note taking from sources like social media and the dictionary (Amalia et al., 2025; Baryadi, 2013). This table provides the validity of the data collected from the previous research.

On the other hand, researchers are conducting an observation through reading and note-taking from social media and daily phenomena about current idiom which frequently used by people. One of the examples is “Let him cook,” which gained popularity on social media, as it is for supporting and validating that one is doing their expertise in an excellent way. Other than that, there is “No cap,” literally it means “no hat,” or someone does not use any hat, but idiomatically, it means that someone is really honest about what they said and has no lie. These idiomatic phrases are collected and analyzed to examine the significance of idiomatic tendencies in the translation field.

The data that have been collected then translated by using the tools Google Translation and QuillBot which consider as type of common machine translation (MT) used by students and other people, the idiom was insert to the MT, and choose the SL and TL with SL (Indonesian / English) and the TL switched into (English / Indonesian), and the idiom input to see what is the meaning in TL given by the MT, after the result of translation is collected, it will be analyzed to see whether the output of translation brings literal or figurative meaning. Moreover, this analysis will use Grice’s Cooperative Principle (1975) to uncover if the sentences met with Grice’s maxim and concept of implicature or not. The other classification was to identify the transcribed data, whether it was bringing the dynamic equivalences or cultural equivalence in the result of SL translation, this was following the principle of Nida’s dynamic equivalences (1969).

Findings and Discussion

Findings

After the data were collected, an analysis process was conducted to examine how those idioms are met with pragmatic and cultural preservation through a machine translation process in language. Findings show that there is a significant number of words that do not imply the real meaning delivered from the SL to the TL. These idioms are translated lexically through MT because implied meaning and cultural preservation cannot be discerned from the surface, and, of course, machine translators only provide possible results without considering whether other meanings may have served the target language. Details of findings can be seen in Tables 3 and 4.

Table 3. English Idiom as SL

Translation Tool	Literal (%)	Figurative (%)	Cultural Meaning Preserved (%)	Cultural Meaning Lost (%)
Google Translate	68%	32%	30%	70%
Quillbot	38%	62%	72%	28%

The findings show that Google Translate tends to produce more literal translations of English idioms compared to QuillBot. This pattern appears in several examples where Google Translate does not capture the figurative and cultural meanings of idiomatic expressions. In contrast, QuillBot’s output demonstrates better cultural preservation by providing a contextually appropriate translation. However, both tools struggled with newly emerging idioms such as “Throw shade” translated into “Melemparkan bayangan” and “Let him cook,” into “biarkan dia memasak”, each of MT translated

them in the same way, and do not bring any equivalences since these words are considered new in modern phrase so MT cannot provide the figurative meaning and lost the cultural preservation of it. These results suggest that while machine translation systems can handle traditional idioms to some degree, they still face significant challenges in processing culturally dynamic or context-dependent expressions.

Table 4. Indonesian Idiom as SL

Translation Tool	Literal (%)	Figurative (%)	Cultural Meaning Preserved (%)	Cultural Meaning Lost (%)
Google Translate	63%	37%	35%	65%
Quillbot	42%	58%	68%	32%

The findings above provide a comparative overview of how Indonesian idioms are preserved through machine translation. Overall, both Google Translate and QuillBot successfully convey certain lexical implicatures of the source text. However, compared to previous results, Indonesian idioms translated into English tend to retain their meaning slightly more often; for instance, QuillBot, demonstrates a better capacity to maintain cultural relevance and figurative meaning. Nevertheless, errors still occur, as seen in "*Gulung tikar*" which was translated as "*Roll up the mat*" instead of the culturally equivalent "*bankrupt*". Despite this improvement, some idioms still suffer from semantic loss.

Similarly, Google Translate often produces literal translations that ignore the cultural significance of each idiom. These results suggest that, while both tools can partially capture idiomatic meaning, QuillBot with 68% rate of success, performs slightly better at preserving cultural nuances in Indonesian-to-English translation. As a matter of fact, QuillBot might have more advantages to put the equivalences in the TL, while cannot hide the fact that QuillBot struggles in preserving the specific expression that rarely used in common conversation.

Discussion

This study employed the comparison of MTs like Google Translate and QuillBot, dealt with idiomatic phrases and how far they could be pragmatically and culturally preserved in the TL. The study shows how MT gives an implicature of each word, and how they take the assumption of the meaning. The key finding generally showed that Google Translate tends to produce literal words for TL, which causes lost implicature and does not convey the cultural value of the SL; however, these findings are related to Sharoufi & Al-Fadhli (2025), who similarly found out that Google translate have no extend explanation and tend to produce the lexical meaning of the words.

The observable pattern that can be seen from the findings is that the trends show how Google Translate often produces literal translation and loses the cultural value, while QuillBot defines and synthesizes idioms into other figurative language. This is clearly stated in the literature, where both of the MT used have a different system in it. Google Translate machine tends to rely on neural mappings and lexical translation, because it works based on the statistical number of words provided, thus this is results in the error of translation. Somehow, it can be preserved because the idiom is used often in their statistical data "*Brainwash*" is the same word from both Indonesian and English terms, and it does not use the cultural meaning in it, because the meaning is clearly borrowed by the lexical word itself. This is consistent with previous studies by Dewayanti & Margana (2024) and Sharoufi & Fadhli (2025), who found that Neural Machine Translation (NMT) systems often violate Grice's maxims of *Relation* and *Quality* by producing literal but pragmatically irrelevant translations.

This system allowed QuillBot to occasionally align with the intended meaning of the idiom or paraphrase the word into the figurative word as well. However, QuillBot also showed an unpredictable variation; sometimes it is not preserved, but for the second time, if we translated it twice in some cases it will provide a different meaning. This indicated that QuillBot has a limited capability

to give the intended meaning, even though there are high probability that this machine will paraphrase the result, which sometimes will distort the original pragmatic intent.

Pragmatic Analysis

Through a pragmatic perspective, findings illustrate that both systems mostly failed to convey the implicature. According to Grice's Cooperative Principle (1982), effective communication depends on observing conversational maxims such as Quantity, Quality, Relation, and Manner. As this MT is a tool to help to communicate between diverse languages, MT at least could understand what the SL implied to. It often shows in the findings that several idioms do not imply anything but confusion, because the MT cannot convey the pragmatic meaning or intended meaning of it. This phenomenon can be seen in one of the results of translation:

Indonesian idiom : *Angkat kaki*
 Translated result: Lift your feet

It is generally acceptable based on an outside perspective, but in a pragmatic perspective, it does not reflect the maxim of relation; it can cause multiple interpretations, while the intended meaning of that idiom means "go away", in some situations, it could create miscommunication between speakers. These resulted in the MT system, although they have the ability to produce grammatically correct sentences and bring literal meaning that somehow makes sense, but pragmatically loses to convey the SL interpretation.

Nevertheless, there also some of the translation which met with the implicature of SL, this is because these idiomatic is statistically often comes up as daily conversation or the idioms that have a literal meanings like "*Cuci otak*" in Indonesian idioms can be translated already to English idiom because there are no intended symbolism in each word, only a hidden meaning, not a real washing a human brain, just an expression. These can be concluded that overall MT, whether Google Translation as the common MT used before AI exist, and AI MT like QuillBot can accurately translate the idiom figuratively, MT cannot bring and adjust the meaning of the SL idioms. For some cases, it works, but it only for common or daily idioms that often appear in statistics of NMT.

Cultural Preservation

Cultural value in language is not something that is separated; how the language improves is connected with the cultural value around that place. Language that grows every day has the role of culture in shaping the variation of the language itself.

Applying Nida's theory of dynamic equivalence will show whether MT can compromise cultural preservation in translating idioms that culturally build from the dynamic situation in every state of country or region. Nida emphasizes that translation quality should be judged based on the response of the target audience rather than literal accuracy (Al Awdi, 2025). Moreover, this indicates that if the SL is an idiom or figurative phrase or sentence, then the intended meaning that is conveyed through TL also a figurative meaning as well, so that there are similarity and understandability of what the speaker or what the text is trying to explain. For example, the Indonesian idiom "*Gulung tikar*" literally means "roll up the mat," but culturally signifies going bankrupt, a meaning that QuillBot failed to capture. This showed up that even though MT identifies the structural equivalence but it cannot reflect the cultural symbolism and emotional nuance.

Furthermore, the data show that idioms rooted in culture, such as "*Keep wolf from the door*" or "*Gulung tikar*" pose greater difficulty for MT systems, as their meanings depend on shared cultural experiences and background knowledge that cannot be inferred lexically. Thus, this study confirms that successful translation of idiomatic expressions relies not only on linguistic accuracy but also on pragmatic understanding and cultural sensitivity, supporting Nida's notion that effective translation must prioritize meaning equivalence over literal form.

Conclusion and Suggestion

This research uncovers how MT like Google Translate and QuillBot handle to keep the meaning of the SL idioms that bring ambiguous interpretation and cultural value. The result of the analysis admitted that MT is able to deliver the lexical meaning effectively to the TL. Therefore, several considerations need to be taken to decide that MT effectively preserves pragmatic and cultural value in the target language. Overall findings showed that MT often relies on lexical translation and cannot imply the meaning from cultural idiom. This limitation showed up because MT depends on lexical distribution and statistical data rather than contextual and cultural understanding. Moreover, many of the translation results violated Grice's maxim of relation and quality, meaning that MT still struggles to grasp conversation implicatures. This also happened with Nida's dynamic equivalence analysis, which cannot be achieved by MT in providing the dynamic interpretation brought by the cultural idioms. This research opened up that MT cannot directly replace tools for helping human conversation due to the limitation of idiomatic translation; therefore, MT still can manage the lexical and literal problems of translation.

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