



User Experiences of AI Real Time Translation in Intercultural Communication in Indonesia

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Abstract. Cross-cultural communication relies increasingly on instant messaging apps that can translate in real time. But the automatic translation machines often make mistakes in grammar, meaning, and culture that create conflict in relationships and misunderstanding. This study purpose to identify common translation errors in WhatsApp, analyze their impact on cross-language communication, and explore user strategies on cross-linguistic communication. Based on Intercultural Communicative Competence and Communication Accommodation Theory, this study acknowledges that technology alone cannot guaran tee precise and contextually relevant interactions. Using a constructivist perspective, the study included in depth interviews with 10 individuals and observations of 119 participants from various Indonesian cultural backgrounds. Thematic research revealed that translation mistakes frequently lead to confusion, annoyance, and unintended insult. Participants performed manual adjustments, consulted dictionaries, and requested clarification from native speakers to ensure clarity and promote relational harmony. Although immediate multilingual communication has benefits, users have pointed out problems with effectively transmitting idioms, cultural intricacies, and emotional nuances. The results show that Neural Machine Translation has made progress in improving contextual accuracy, but there are still big problems with informal or culturally complex encounters. The results show that translation algorithms need to be better, that user feedback mechanisms should be added, and that more language resources should be made available to increase ac curacy. To communicate well across cultures, you need to use technology along with an understanding of cultural differences and a willingness to adapt. This study offers significant insights for developers and users seeking to enhance cross-language interactions.

Keywords: Real-Time Translation, intercultural Communication, Digital Communication, AI.

1 Introduction

Instant messaging services like WhatsApp have become quite important in today's world because they let people from different cultures talk to each other in real time. The addition of automatic translation features is meant to get rid of language barriers so that people from different cultures and languages may talk to each other easily. On the other

side, recent empirical research indicates that, despite substantial technological progress, translation mistakes remain prevalent. The challenges are most clear in casual interactions, when idioms, colloquialisms, and references to certain cultures come up a lot, making it hard for AI systems to understand what is being said. (Wang, Liu, & Ma, 2022).

Hancock, Naaman, and Levy (2021) It is crucial to emphasize that AI-generated smart replies, while effective, are frequently perceived as lacking authenticity or emotional connection. This view could make trust and rapport weaker, especially in delicate or relational settings. To deal with these persistent problems, people often use a mix of human intuition and technology to come up with new ways of doing things. Kim and Leung (2023) show that a lot of people check translations by hand, use more than one reference source, or ask native speakers personally to clear up any confusion. Likewise, prior studies indicated that users often utilize code switching, paraphrase, and reduced language to mitigate the risk of misinterpretation. In a similar line, previous research has indicated that users frequently employ code switching, paraphrasing, and reduced language to mitigate the risk of misinterpretation. These behaviors illustrate that user agency and intercultural sensitivity are vital components of good cross-language communication, even in technology-driven contexts (Alazzawie, 2022).

Moeller and Catalano (2021) It is essential to emphasize that intercultural communicative competence is crucial for closing the divide between literal translation and the intended social meaning of a message. Effective communication across cultural boundaries necessitates a blend of linguistic abilities, sociolinguistic insight, and pragmatic skills to ensure appropriateness and respect. In parallel, Park and Suh (2023) contend that AI-mediated communication systems affect language results and alter users' perceptions of relational intimacy and communicative purpose, highlighting the intricate relationship between technology and human interaction. This study addresses this gap by examining how WhatsApp users perceive, understand, and handle translation errors in real-life interactions, aiming to enhance translation algorithms and foster intercultural communicative ability.

2 Literature Review

The growing dependence on AI-based translation systems in daily communication has garnered significant academic scrutiny over their capabilities and intrinsic limitations. Zhou and Gao (2021) assert that while Neural Machine Translation (NMT) improves syntactic fluency, it often overlooks pragmatic subtleties, cultural idioms, and contextual dependencies. These deficiencies provide considerable obstacles in intercultural communication. Yip, Goh, and Chong (2024) also say that real-time translation systems make language more accessible, but they have trouble with subtle and informal phrases, which can lead to misunderstandings. Yip, Goh, and Chong (2024) also point out that real-time translation systems make language more accessible, but they have trouble grasping subtle and colloquial phrases, which increases the danger of miscommunication. Additionally, Klimova and Chen (2024) emphasize the significance of intercultural.

AI's ability to work across cultures is made further harder by trust and bias. Jenks (2024) emphasizes that generative AI and extensive language models may reinforce cultural prejudices, so jeopardizing credibility and authenticity in cross-cultural communication. Without careful calibration, AI may unintentionally reinforce prevailing cultural narratives while claiming to be impartial. The current literature delineates the diverse adaptation tactics employed by individuals to address the constraints of AI. Kim and Leung (2023) note that speakers frequently employ paraphrase, manual verification, or numerous translations to ensure clarity. Code-switching and mixed-language usage reduce misunderstanding in cross-cultural messaging, highlighting how AI-mediated communication influences perceived emotional connection and communicative purpose (Park and Suh, 2023).

The results of this study demonstrate that AI translation, while promising for multilingual interaction, is significantly contingent upon user agency, cultural competence, and compensatory techniques. This study demonstrated that WhatsApp users from many cultures interpret and manage translation problems, highlighting the collaborative construction of meaning in AI-mediated conversations. It addresses the urgent necessity for intercultural competency in the context of increasing dependence on digital translation resources.

3 Research Method

This research uses the constructivist perspective. Constructivism means that individuals collaboratively generate knowledge through their experiences within particular cultural and social contexts, rather than discovering it objectively (Lincoln & Guba, 1985). By emphasizing meaning-making as an active and contextual endeavor, it facilitates a more comprehensive analysis of individuals' perceptions and utilization of real time translation tools. According to Charmaz, constructivist research seeks to explore the processes via which individuals generate meanings and the influence of social, cultural, and technical factors on those meanings. Charmaz (2014) asserts that the objective of constructivist investigation is to understand how individuals generate meanings and how social, cultural, and technical factors influence those meanings.

Qualitative data collection methods, specifically the observation of 119 individuals and in-depth interviews with 10 Indonesian participants. To obtain diverse conversational experiences with WhatsApp's real-time translation feature, 119 participants were deliberately selected from a broad spectrum of language and cultural backgrounds in Indonesia. Observation was conducted to augment the interviews and enhance the depth and reliability of the data by recording contextual hints and user behavior. This method corroborates Patton's (2015) assertion that qualitative research is especially adept at capturing the richness and profundity of human experiences in genuine circumstances.

The study employed thematic analysis for data analysis, a flexible yet stringent approach for discerning and interpreting patterns in qualitative data (Braun & Clarke, 2006). To guarantee the research's credibility and reliability, triangulation was employed by juxtaposing interview data with observational insights, and member checking was performed by obtaining comments from participants to validate the researchers'

interpretations. Journaling was another way to keep reflexivity going and deal with any biases that might come up during the study process (Lincoln & Guba, 1985).

4 Results And Discussions

4.1 Intercultural Communication

Intercultural communication is the act of communicating knowledge amongst people from different cultures (Misnawati, 2024). This idea includes language, social norms, attitudes, and behaviors that affect how people interact with each other. Intercultural communication can occur in various contexts, including personal relationships, international business, and educational environments. Language, values, and cultural norms that are different from one another are often what make it hard to communicate across cultures. Language concerns are one of the biggest problems. This is because vocabulary, idioms, and sentence structures can be very different between languages. This could lead to wrong translations and interpretations of messages (Uyuni, 2023).

If differences in social norms aren't dealt with properly, they could lead to misunderstandings and fights. Another problem that comes up in cross-cultural communication is the likelihood that stereotypes and preconceptions will affect how individuals see and interact with one other. For example, preexisting ideas or general views about a given ethnic community may affect how messages are sent or received. So, to make intercultural communication more successful and open to everyone, it is important to find and get rid of these biases. International communication is becoming more and more important as globalization gets stronger. It is necessary to keep collaborations peaceful and effective. Improving your understanding of how people from other cultures talk to each other can help you get along better with people in many different situations. Intercultural communication study helps people and groups find and get beyond problems and make plans to improve communication and connections between cultures. By understanding the basic ideas and problems of intercultural communication, we may make both our personal and professional lives more welcoming and productive.

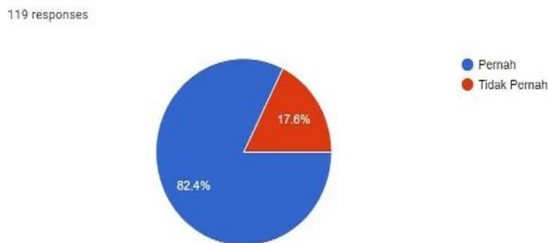


Fig. 1. Language Translation (AI) Service usage diagram.

The data above shows that 98 people, or 82.4% of the sample, used language translation services to talk to people from other cultures. On the other hand, 21 people, or

17.6% of the population, had never used language translation services. Because of this, researchers are increasingly interested in how artificial intelligence may enable people from different cultures talk to each other by translating languages in real time. A deep understanding of intercultural communication can make conversations more productive in many different situations.

4.2 Language Translation Technology

Language translation technology has come a long way since it first started. The idea of automatic translation first came along in the 1950s when simple computers that could translate text between languages were first made. However, the results were often not very good. The first way to translate is rules based. This means that the system uses vocabulary and grammar rules that have already been coded into it to translate the text. (Diah, S. & Zaenudin, 2023). Over time, automatic language translation has become more advanced and accurate because to improvements in algorithms and computer technology. The late 20th and early 21st centuries saw the emergence of machine learning techniques that led to major changes in this field. This was especially true with the introduction of translation systems based on statistics and neuroscience. Even though translation technologies make it easier to communicate quickly, they don't always understand practical and cultural differences, thus they often need to be checked by a person to make sure they are appropriate. (Zhou & Gao, 2021).

Neural networks are the newest thing in language translation technology. Recent progress in Neural Machine Translation (NMT) has greatly enhanced contextual translations; yet, difficulties persist, especially in casual digital communication characterized by idiomatic and cultural idioms (Wang et al., 2022).

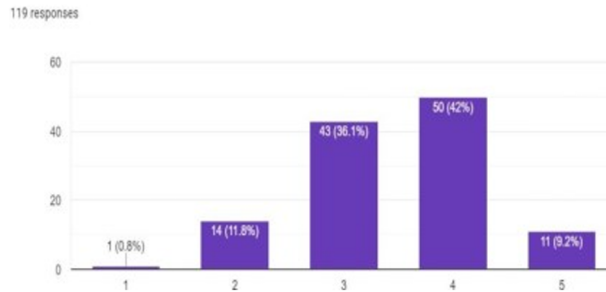


Fig. 2. Language Translation (AI) Service usage diagram.

WhatsApp's automatic translation feature lets us talk to folks from other countries without worrying about language barriers. We must acknowledge that this technology still has limitations, though. Despite its sophistication, machine translation has not been able to fully grasp the subtleties of language like humans can. 'Sie' and 'du', for instance, are highly dependent on the degree of formality in the interaction between speakers in German speech. Similar to how we use "you" in Indonesian when speaking to an older

person, a boss, or a stranger, the word "Sie" is used to denote a high degree of formality. Conversely, 'du' is employed in more casual settings, including when speaking with close friends or relatives. Because machine translators frequently struggle to discern between the usage of "Sie" and "du," the translation that results may be inaccurate or even deceptive.

The limitations imposed by technology on the translation mechanism affect how well WhatsApp communications translate. Despite constant technical advancements, automatic translation systems still struggle to recognize complex situations and meanings (Solihatin et al., 2022). Certain communication criteria are not met by the translations the system generates. The intricate structure and information-rich sentences often result in imprecise translations, resulting in unclear messages. The problems with using automatic translation technologies are reflected in the kinds of translation errors that frequently occur in WhatsApp conversations. Improving the quality of cross-language communication and making better use of translation features require an understanding of the many kinds of faults and how to fix them.

4.3 User Strategies in Overcoming Translation Errors

When utilizing WhatsApp's real-time language translation capability, users frequently employ a variety of techniques to address translation issues. Manual correction is one method that is frequently employed. Verifying and fixing translations produced by the system itself is known as manual correction. The resulting translation can be viewed again, compared to the source text, and adjusted as necessary by the user. This method works particularly well when translation errors are quite clear and can be readily fixed by users with sufficient language proficiency. A study of young people in Canada found that WhatsApp users actively employ adaptive techniques like code-switching and paraphrasing to deal with the limitations of automatic translation and maintain understanding between cultures. (Alazzawie, 2022)

Using extra resources is another crucial tactic that users do to increase translation accuracy when dealing with manual correction. Terms or phrases that are difficult for users to grasp when translated by the primary system can be helped by online dictionaries, glossaries, and other translation tools. While other translation apps frequently offer alternative features or algorithms that may be better suited for particular sorts of text, dictionaries can offer more accurate definitions and correct usage circumstances. In order to reduce miscommunication in real-time messaging, users frequently employ hybrid tactics such as manual verification, the usage of dual translation platforms, and culturally sensitive reinterpretation. (Kim & Leung, 2023). Additionally, users can use online forums or communities to receive assistance fixing translation issues. Users can ask questions about translation problems and receive answers from linguists or native speakers on a number of venues. The tactic of asking the other person for clarification is a typical one that is employed in conjunction with the usage of other resources. Contacting native speakers or discussion participants to clarify the message content is the best course of action when translation problems lead to ambiguity or uncertainty. Users can also report issues or inconsistencies by using the feedback options in translation

apps. In order to help developers, improve the quality of translation algorithms, several translation apps allow users to leave comments on the translation results.

4.4 The Impact of Mistranslations on Communication

Mistranslations can significantly affect social interactions and message comprehension, particularly when using systems like WhatsApp for cross-language communication. The intended message may become unclear or misinterpreted if the translation is incorrect. (Zahra et al., 2024). For instance, the recipient of the communication might not fully comprehend the information if a crucial technical phrase or term is translated in a way that does not accurately reflect its original meaning. Confusion, misunderstandings, or even errors in actions based on the message may result from this. Translation errors can affect operational and strategic decisions in business settings, and they can strain interpersonal relationships and cause conflict. In both professional and personal contexts, translation errors particularly cultural mismatches can result in interpersonal conflict and misunderstandings, necessitating the deployment of user mediation techniques. (Moeller & Catalano, 2021)

Personal interactions also exhibit the impact of mistranslation on social connections. A WhatsApp user who participated in an interview described how a mistranslation in a message to a buddy from overseas strained their friendship. Even when a message's original goal was not to offend, phrases that are translated literally come off as disrespectful and offensive. Friends are insulted by inaccurate translations, and even if the issue is later fixed, the misunderstanding has a lasting negative effect on their connection.

Inaccurate translations caused a number of issues for a business using WhatsApp to interact with clients abroad in one case study. Customer satisfaction and the company's reputation are impacted when customers' answers contain translation problems that result in inaccurate information about goods and services. To lessen the possibility that similar mistakes will be made again, businesses should devote time and resources to identifying and fixing mistakes as well as to providing more training for employees. Stereotypes and prejudices can arise as a result of mistranslations in social encounters. According to research, inaccurate translations frequently reinforce negative perceptions about certain cultural groups. Misrepresentations of cultural groups in translations exacerbate preconceived notions and have a detrimental impact on cross-cultural relationships. In interviews, a number of users discussed how translation problems affect individuals on a personal level while also harming societal attitudes in general. Although translation technology has advanced quickly, user experiences indicate that accuracy and context issues still exist, and it is crucial to create practical plans for dealing with and lessening the impact of these translation problems.

In social interactions, misinterpretations give rise to prejudices and stereotypes. According to new research, inaccurate translations frequently reinforce negative perceptions about certain cultural groups. Translations that inaccurately portray cultural groups exacerbate preconceived notions and have a detrimental impact on cross-cultural relationships. In interviews, a number of users described how translation problems affect individuals on a personal level while also harming societal attitudes in general.

According to user experiences, despite the rapid evolution of translation technology, accuracy and context issues still exist, and it is crucial to create practical plans for dealing with and lessening the impact of these translation problems.

5 Conclusion

WhatsApp's real-time translating tool provides the time-efficient convenience of cross language communication. Semantic, syntactic, and cultural translation errors, on the other hand, are frequent and have an impact on social relationships and message comprehension. By using live clarifications, extra resources, and manual corrections, users are able to get around this problem. Although this feature is helpful, in order to minimize errors and enhance the user experience, more translation accuracy and context are required. Enhance the translation algorithm to better manage the language's subtleties and context. Include feedback tools and incorporate extra resources, such dictionaries. This will reduce communication errors and increase the translation's correctness.

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