


Chapter 5

On Assessing the Accuracy of Arabic–English Translation by Machine and Human

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ABSTRACT

The ubiquity of artificial intelligence (AI) has significantly influenced research and practice in translation studies. As an integral part of the globalized world, AI's impact continues to grow. But translation accuracy can be compromised if machine translations are not supported by post-editing. This study evaluates the accuracy of machine and human translation by comparing their outputs using a qualitative descriptive approach. Machine translation, while efficient, struggles with polysemous terms, historical references, and culturally embedded expressions, leading to semantic distortions and omissions. The indispensability of human expertise also has been highlighted in preserving the integrity of Arabic scholarly works in cross-cultural academic discourse. This study underscores the importance of hybrid approaches, combining machine translation's speed with human post-editing to enhance translation quality. Recommendations offered include improving machine translation systems through domain-specific training and contextual awareness algorithms.

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INTRODUCTION

The omnipresence of artificial intelligence (AI) considerably affected and is affecting a plethora of scientific fields including translation studies in terms of its research and practice and the effects it brings will continue to be propagated as it has indeed become an integral part of this globalized world. Such effects include both positive effect as translation works, be they in a small or great scale, can be done in no time and without prior onerous cognitive efforts in identifying equivalents just as in traditional way of translating, satisfying customers' demands. However, this also poses negative effect which is often overlooked by translators themselves as the most fundamental and critical aspect of measuring a translation quality; accuracy is sometimes questionable if and only if the translation is not followed up by post-editing or humans supervision, shifting their roles from translators to editors of machine-generated content as the machine system continues to advance (Muftah, 2024). When translating, machine translation (MT) as one of the artificial intelligence products only depends on access to available online corpora by means of neural networks and computational algorithms (Obeidat & Jaradat, 2024) while humans make full use of their skills and creativity, heavily relying on repository of 'mental corpora' previously encountered and gained through training and experience in specific languages.

While translation is regarded as one of the oldest human activities since the dawn of time, it has never been thought of that technological advancement achieved by humans in this day and age will impact translational activities where the pervasive influence the technology brings on translation could not be denied. A few critical questions are still being discussed by both translation teachers and practitioners themselves; Does technology work hand in hand with humans, complementing their translation? Or will the machine agency totally replace the human agency in such a way that they will be relying on it, compromising translation quality? The first being the perk of having a machine-assisted translation and the other being the pitfall of leveraging technology. Whether technology represents a treat or a threat to human translators depends solely on how it is applied and contextualized. It is a double-edged sword.

The extent to which MT can preserve accuracy, particularly in such a high-context language as Arabic, remains under scrutiny. Arabic, characterised by its rich morphology, cultural and contextual nuances, poses significant challenges for MT systems which often struggle to capture the intricate grammatical and morphological relationships of the language (Farghaly & Shaalan, 2009; Habash & Sadat 2006). It is due to the MT's limited ability to account for historical, cultural, and linguistic intricacies that its use for translating Arabic academic texts, for instance, often results in outputs that distort meaning, misinterpret cultural concepts, or omit key

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