# Saudi Translation Agencies and Translation Centers: A Study of Post-Editing Practices

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**Abstract**

This qualitative research aims to investigate and analyze the practice of post-editing activity in Saudi translation agencies and translation centers. The study's focus is on the importance of post-editing Machine Translation (MT) output as an approach to upgrade the quality of MT results to enhance the accuracy of translations. The study data were collected through an electronic survey (questionnaire) comprising short questions about post-editing practice and guidelines in addition to their knowledge about post-editing certification programs. The participants in this study were 18 professional translators working in certified translation agencies and translation centers across different universities between Jeddah, Dammam, and Riyadh cities. The results of the study showed that the participants post-edited the MT outputs in their tasks and recognized the importance of being aware of post-editing standards and guidelines. Further, the findings demonstrated that the majority of the participants used machine translation tools. Finally, they were positively disposed about post-editing certification programs to take employment as post-editors. Based on the results of this study, it is recommended to analyze the state of post-editing in Saudi Arabia on a larger sample to investigate the attitudes of Saudi translation students towards practicing post-editing of MT outputs, and analyzing the activity of post-editing MT in specialized texts by Saudi professional translators.

**Keywords:** certification programs, post-editing, Saudi market, translation centers, translation agencies

## 1. Introduction

We live in an era that is witnessing a continuous technological growth in every aspect of life (Al-Ahdal, 2020). This growth has also influenced the translation field, moving it to a technological level to suit the pace of modern living. With the continuous demands on translating volumes of content into different languages (Zhang & Cai, 2015); it is hard for human translators to accomplish the task in short duration of time. This prompted machine translation (MT) which supplemented translation speed and assisted translators in their tasks. To better understand machine translation and to know the reasons behind the emergence of post-editing, we need to define what MT is.

According to Sager (1994), MT is defined as the translation of one natural source language (SL) into another, target language (TL) by means of the computer using suitable software. MT is the transference of SL into TL with the use of computer, with or without the intervention of human translator. Further, Sin-Wai (2015) discussed that MT is the process of translation which involves technology-oriented translation procedure. Sin-Wai highlighted that the goal of MT is to produce automatic high-quality translation (FAHQT) through the use of a machine translation system, without human intervention (p. 33).

However, the outputs of MTs were found to be not accurate, and kept open the possibility of serious errors such as grammatical errors, structural errors and linguistic errors that may lead to erroneous translations (Lee, 2020). Nevertheless, MTs kept developing to create different approaches. According to Žďárek (2021), the first approach of MT is Rule-Based MT, i.e., RBMT, which depends on different levels of linguistic rules. The second approach is Statistical MT, i.e., SMT, which relies on lists of translated sentences in one natural language into a TL stored in the electronic corpora. The third common MT approach is Neural MT, i.e., NMT. NMT relies on neural networks to encode and decode SL into TL (Žďárek, 2021). The difference here is that NMT works on the whole input of sentences during the translation phase.

NMT indeed came to solve the problems present in other approaches, yet translators cannot depend entirely on its output. The machine still makes mistakes, and it is a considerable risk to depend on it without supervision (Floridi & Chiriatti, 2020). As a result, post-editing came as an activity to solve the machine errors.

O'Brien (2006) defined post-editing as an activity carried out by a professional translator to edit the MT outputs and fix the errors of the machine. This activity focuses on editing the MT output and naturalizing it to become a natural translation that looks like a human translation. It also includes correcting any error made by the machine and removing any ambiguity that the machine may have caused. Moreover, Chan (2004) defined post-editing as 'an activity undertaken for the purpose of rendering a machine output text suitable for use' (p. 175). Sin-Wai (2017) argued that post-editing is required when MT output has failed to capture ideas in the original, reproduce the style of writing, transfer different senses of expressions, remove cultural differences, and produce a fluent target text.

Further, post-editing is not a very easy task, as it follows benchmarks and guidelines set by specialized institutions to standardize the practices of post-editing (Nitzke & Hansen-Schirra, 2021). We have seen that a heavy independence on MT led to erroneous translations or unnatural translations with no post-editing of the output, which brought a research gap that needs exploration. It is important to note that there was shortage of Arabic references in this topic as we found a thesis that discussed a comparative study between Google translator and human translator and another thesis that discusses post-editing as a creative tool in improving the quality of the product of translation students. However, to the best of my knowledge, there is no study that discusses the practice of post-editing in Saudi Arabia. Additionally, translation agencies and translation centers were not very receptive to having data collected from their translators. Therefore, this research addresses the problems of MT quality problems since professional translators grumbled about the quality problems of MT outputs and how they sometimes consume time and need efforts more than translating from the scratch. Thus, this research aims at:

1. Analyzing the practice of post-editing activity in Saudi translation agencies and translation centers.
2. Focusing on the importance of post-editing MT output as an approach to upgrade the quality of MT results which leads to more accurate translations.

Moreover, the study hopefully answers the following questions:

1. Are Saudi translators at agencies aware of machine translation?
2. To what extent are translation agencies and translation centers aware of the importance of using post-editing as a professional practice?
3. How effective are Saudi translators in applying post-editing standards and guidelines?

## 2. Literature Review

Machine translation dates back to 1940s when the first computer was invented. Chan (2004) reported that the first two scholars who proposed using computers to translate natural languages were Warren Weaver, the president of the Rockefeller Foundation, and Andrew D. Booth of Birkbeck College, London University, only a year after the invention of the computer. In this context, the need for post-editing existed from the invention of machine translation. Hence, post-editing is not a new practice in translation studies and work and has accompanied MT from the beginning (Carl et al., 2015).

As mentioned above, the demands for integrating MT in the translation work have risen due to the growing needs for translating large volume of translation projects in short time (Christensen & Schjoldager, 2016), without losing high-quality and with minimal translation costs (Wu et al. 2016). Thus, MTs kept developing to include different approaches and the research on MT is growing to find better ways to benefit from the machine and raise quality of MT by human translators. O'Brien (2002) stated that the growing demands on translation work led to an increasing use of translation aids, including MT technology. Similarly, Carl et al. (2015) believed that post-editing machine translation is a win-win situation as it combines "human quality and machine efficiency" (p. 146). In this context, O'Brien (2002) advocated the fact that MT and post-editing are "viable solutions" for these increasing demands on translation.

### *Post-editors*

Since the world is moving very fast towards more advanced technologies, Pym (2013) claimed that MT is moving to turn most translators into post-editors in the near future. Therefore, translators must consider what translation competences should be gained and what new skills to acquire in this era. This argument presented the importance of acquiring post-editing skills and having the knowledge and awareness of post-editing guidelines and standards. According to Sager (1994), the post-editor is the one who transforms the artificial language into more natural language. Thus, post-editing is greatly needed, especially in this technological era.

Vis-à-vis post-editing skills, Krings (2001) argued that the post-editor should be an experienced translator who figures out the problems of MTs and fixes those errors. Sin-Wai (2017) discussed MT outputs include linguistic, terminological, syntactical, referential, stylistic, and typological errors. Additionally, Krings (2001) stated that post-editors should acquire specific skills in technology, linguistics, and problem-solving skills. In this context, earlier, scholars have stressed the importance of acquiring problem-solving skills, overcoming texts problems and technical skills (McElhaney & Vadconcellos, 1988). Moreover, Aranberri (2017) mentioned that the tasks involved in translation and post-editing differ considerably. This difference applies to the involvement of different sets of skills for post-editing. This reveals how important it is to acquire and focus on specific skills for post-editing.

Moreover, international translation institutions worked on issuing international standards and guidelines for post-editing to standardize the practice (Koponen et al., 2020). ISO have published the ISO 18587:2017 which provides the requirements of full human post-editing of machine translation output and post-editors' competence (ISO 18587 (2017). Additionally, TAUS (2016) published the set of MT post-editing guidelines to pronounce the best practices for post-editing work. Further, SDL offers a certification program that provides a recognized standard of excellence in post-editing. The SDL certification program focuses on different subjects such as history of MT, neural machine translation, evaluating and testing machine translated outputs and more. Translators who take this course will become certified post-editors (Training Post-Editing Machine Translation, 2022). These standards and guidelines, in addition to the certification, show how the field of translation is progressively moving towards post-editing.

Based on the review of previous research on the practice of post-editing in Saudi translation agencies or translation centers, the lack of research on post-editing practices in Saudi Arabia is evident. To the best of my knowledge, the current study is the first attempt to discuss the practice of post-editing in Saudi translation agencies and translation centers. In the light of the relevant studies discussed above, we

can conclude with the importance of implementing post-editing practice as a professional practice in Saudi translation centers and translation agencies to upgrade the efficiency of integrating technology and benefiting from it since we are moving fast in Saudi Arabia forward to using technology in our jobs in addition to receiving a large volume of translation projects that need the help of technology to handle them.

## 3. Methods

### *Research design*

This study used a quantitative method to gather the perceptions of translators about the knowledge of post-editing practice in Saudi translation centers and translation agencies. A quantitative method was most appropriate due to the benefit of the general idea that such data could offer about the knowledge of the practice of post-editing at translation agencies and translation centers. The questionnaire was distributed electronically using Google Forms to 18 translators and required them to answer short questions about post-editing practice and guidelines in addition to their knowledge about post-editing certification programs.

### *Sampling*

A convenience sample was identified for this study by meeting with employees of the translation agencies and translation centers to seek permission to distribute the electronic survey among translators. The sampling was not limited as the researcher tried to distribute it to many agencies and centers as an attempt to collect a reasonable corpus of data from these agencies and centers about post-editing practice. The participants in this study were 18 professional translators working in certified translation agencies and translation centers in several universities between Jeddah, Dammam, and Riyadh cities. Participation in the survey was purely voluntary. A consent form was sent to them to obtain formal acquiescence to volunteer with the rejoinder that they may withdraw from participation at any time. Additionally, they were informed that this study was only an academic.

### *Data collection*

The questionnaire included closed and structured items which restricted the responses from participants to Yes/No answers. There were 14 straightforward and clear questions to answer the main research questions. To ensure the reliability of the items, the questionnaire was refereed by three professors of translation studies. The participants had enough time to answer, as the researcher had kept the Forms accessible for a week.

The questionnaire also included two open-ended questions to be answered by the participants asking them about the translation software or websites they used in their translation tasks, the reasons for not using MT, and the type of texts they used MTs for.

## 4. Results

The quantitative data of the participants' responses in this study were analyzed and represented as pie chart figures and followed by detailed discussion.

### *RQ1: Are Saudi translators at agencies aware of machine translation?*

***1. As a translator, do you think that translation technologies help you in your work?***

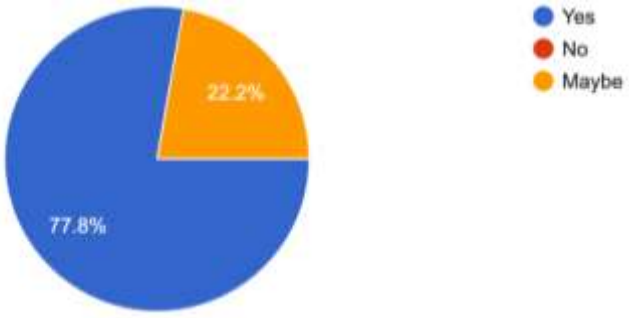


Figure 1. Translation technologies as an associate for professional translators

Figure 1 shows that most of the participants responded with a yes. To enumerate, 77.8% of the participants thought that translation technologies helped them in their career. While 22.2% responded with maybe, which indicated that some of the participants were hesitant regarding translation technologies as an assistance for them in their career. This finding is in line with Christensen et al. (2017) who showed that translation technology now is very integrated in every part of our lives, as not only professional translators use MT, but also non-translators use them to understand texts and produce them for their own ends. This shows how important translation technologies have become for us as not only professional translators, but also for laypersons.

***2. Do you use Machine Translation (MT) in your translation tasks?***

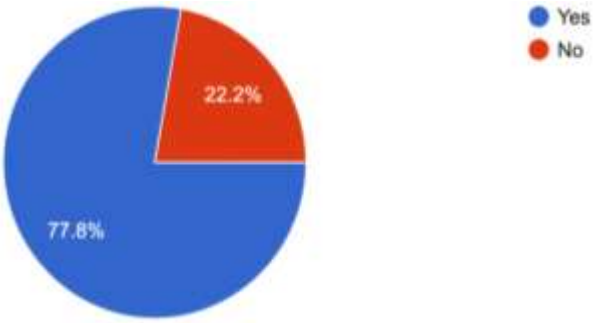


Figure 2. Translators' use of Machine Translation

Figure 2 shows that most of the participants, which is 77.8% answered with a yes. These answers show how MT has come to be integrated in professional translation practice. On the other hand, 22.2% of the participants answered with a no. This may be due to fear of replacing human translators with the machine. However, the researcher still believes that we, as human translators, can benefit from the machine to assist us. In this regard, Carl et al. (2015) stated that MT is heading to become an integral part of translators' work environment; to facilitate their tasks and to make translation tasks "cost-effective" without compromising on the quality.

***3. Do you think that using MT assist you as a translator?***

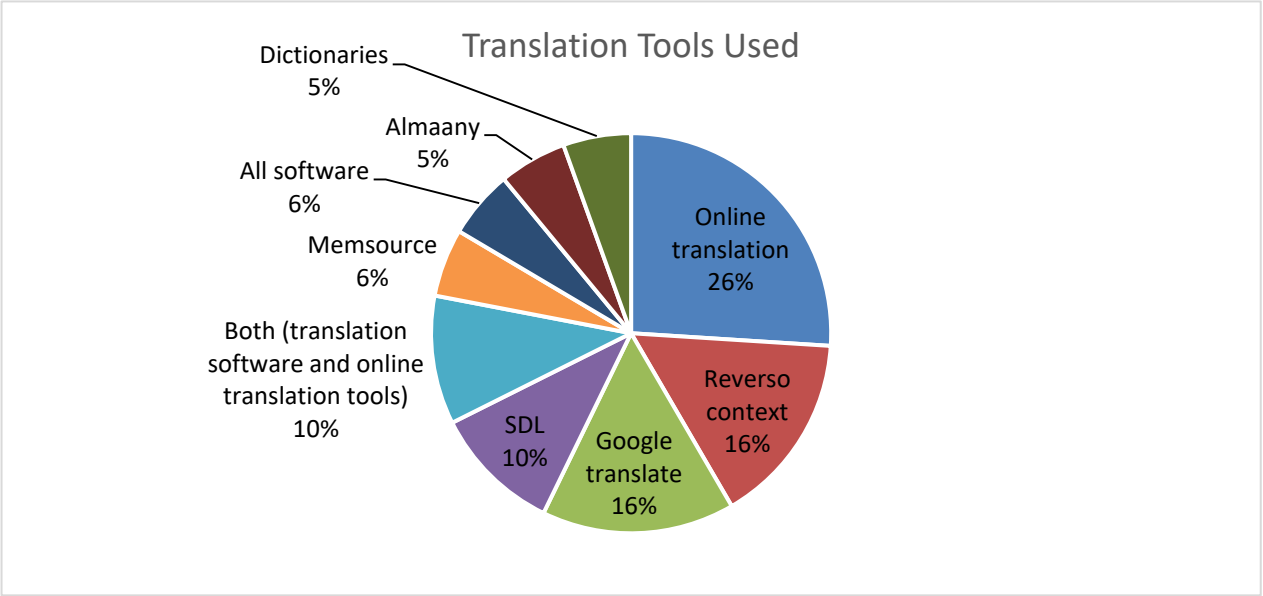


Figure 1. Translation tools used

Figure 3 shows that 26.32% of the participants said that they used online translation tools in their translation tasks. Moreover, 15.79% of the participants reported that they used the Reverso context tool. Further, 3 responses reported that they used Google Translate in their translation tasks. Furthermore, 10.53% of the participants reported using both the tools. That is, they used both online translation tools and translation software tools. Moreover, 10.53% of the participants answered that they used SDL Trados in their translation tasks. Finally, 5.26% of the participants answered with using Memsource, 5.26%, said that they used all software, 5.26%, 1 participant, reported using Almaany, and 5.26% reported using dictionaries. On the other hand, 22.2% of the participants did not answer the question. The depiction here shows the variety of tools and software used by professional translators in their tasks. This indicated that the participating translators are in favor of translation tools to assist them in their translation work.

***RQ2: To what extent are translation agencies and translation centers are aware of the importance of using post-editing as a professional practice?***

***4. Are you familiar with post-editing MT practice?***

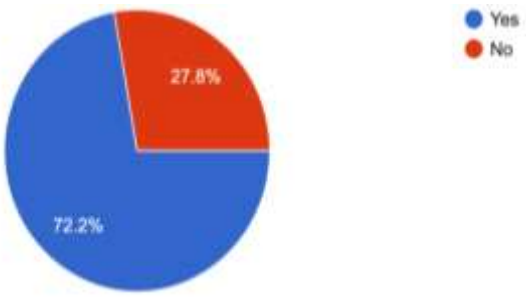


Figure 4. Familiarity with post-editing

Figure 4 shows that 72.2% of the participants were familiar with post-editing. This is a very promising finding since Saudi Arabia is looking forward to developing on the level of translation practice. On the contrary, 27.8% of the participants did not know about post-editing. It is important for professional translators to be updated with new trends in their field to benefit from new updates for their own advantages.

***5. Do you think that MT will evolve to the extent that translators would accept the raw output?***

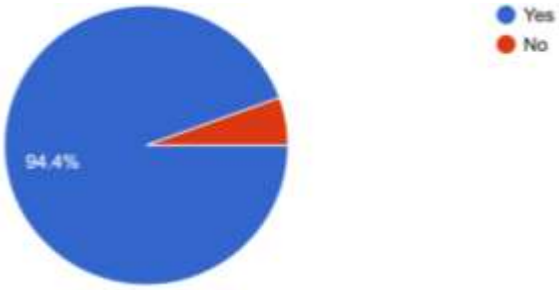


Figure 5. Post-editing MT outputs in professional translators' work

The translators were asked if they edited the MT outputs after using it in their translations. Figure 5 shows that 94.4% of the participants responded with a yes. While 5.6% participants, that is 1 participant, answered with a no. This is also a very interesting and promising result, as it shows that professional translators in the study have good awareness of the importance of post-editing.

***6. Do you know the strategies of post-editing MT output?***

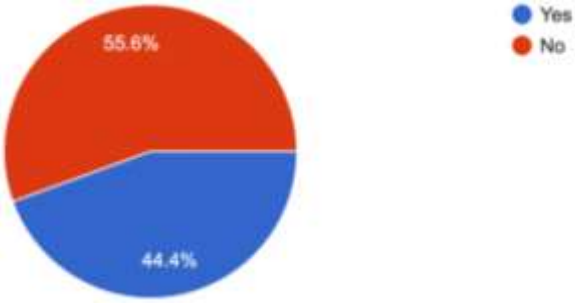


Figure 6. Knowledge of post-editing strategies

Figure 6 shows that 55.6% of the participants did not know the strategies of post-editing. Alternatively, 44.4% of the participants answered with a yes. It is important to keep professional translators trained with such strategies to overcome the challenges they might face when post-editing MT results.

***RQ3: How adept are Saudi translators in applying post-editing standards and guidelines?***

***7. Are you familiar with standards and guidelines for post-editing?***

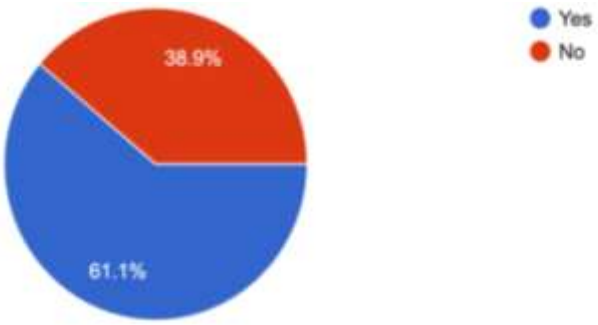


Figure 7. Participants' familiarity with post-editing standards and guidelines

Figure 7 shows that 61.1% of participants were familiar with the standards and guidelines of post-editing, while 38.9% of the participants did not know of the standards and guidelines. This shows a good degree of awareness of international standards and guidelines, which is good for translation profession in Saudi Arabia.

***If YES, Do you follow these guidelines in executing your tasks as post-editor?***

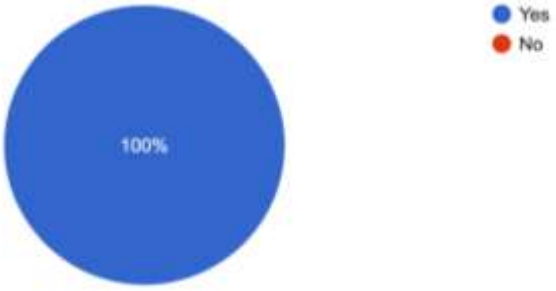


Figure 8. Following Post-Editing Guidelines in Executing Tasks

Figure 8 shows that all the participants answered with a yes. This means that the participants follow post-editing guidelines when they post-edit MT output.

***8. Do you believe mastering post-editing is important as a professional practice?***

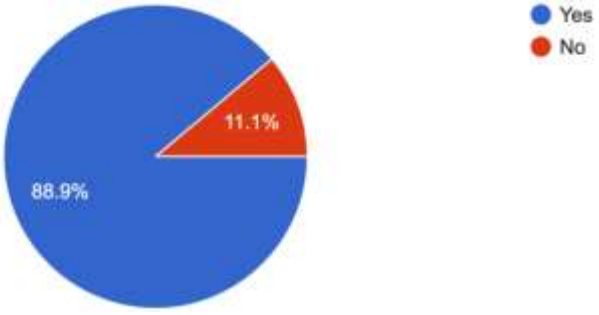


Figure 9. The importance of mastering post-editing as a professional practice

Figure 9 shows that 88.9% of the participants responded with a yes. Further, 11.1% of the participants, responded with a no. The participants here showed an attitude of accepting the importance of mastering post-editing as a professional practice. This seems very exciting as it shows good awareness of implementing post-editing practice in Saudi Arabia to decrease the heavy dependence on raw MT outputs.

***9. Do you think that post-editing is common as a professional practice in Saudi translation agencies or translation centers?***

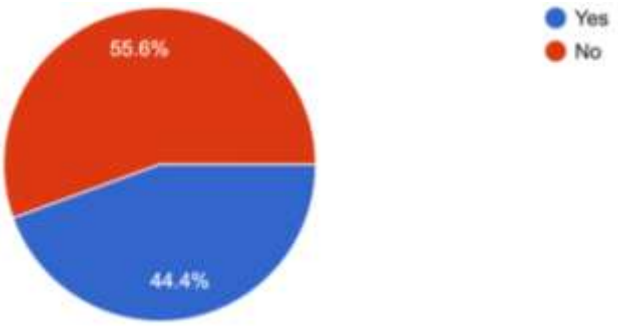


Figure 10. The commonness of post-editing as a professional practice in Saudi Arabia

Figure 10 shows that 55.6% of the participants answered that post-editing is not common in Saudi agencies and centers, while 44.4% of the participants answered that this step is not widely used in Saudi Arabia. The percentage of the answers are close to each other, yet most of the answers indicated that post-editing is not common as a professional practice in Saudi Arabia.

***10. Do you think including post-editing practice is vital in translation program curricula and translation courses?***

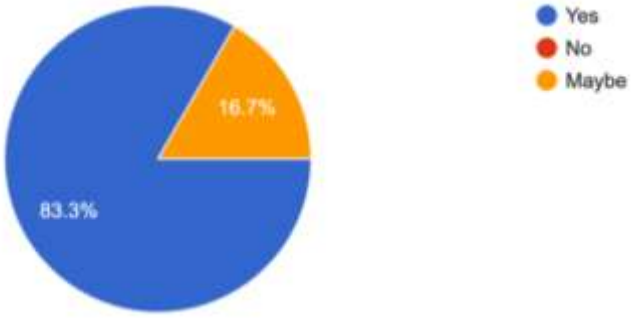


Figure 11. The vitality of including post-editing in translation program curricula

The participants here were asked about their opinions regarding implementing post-editing in translation program curricula at universities and translation courses in general. Figure 11 shows that 83.3% of the participants believed that post-editing was vital in translation program. While 16.7% of them, i.e., 3 participants, answered with a maybe. Figure 11 depicts that the participants, in general, think that it is vital to include post-editing in the curricula of translation programs and courses. This is due to the immense progress we are witnessing in technology, specifically in translation.

***11. Do you think translators need to acquire necessary skills and knowledge to become efficient post-editors?***

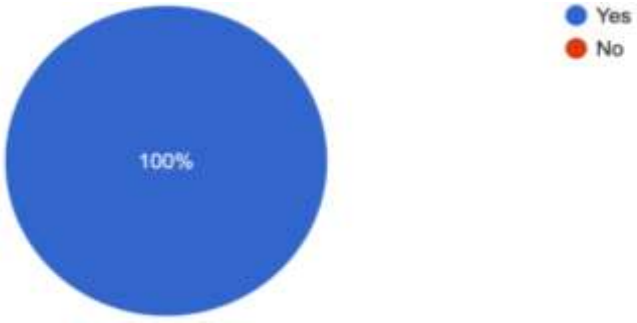


Figure 12. Acquiring skills and knowledge to becoming an efficient post-editor

Figure 17 shows that 100% of the participants answered with a yes, this means that all the participants here think that it is important for translators to acquire necessary skills and knowledge in post-editing in order to become efficient and reliable post-editors.

***12. Do you know there are post-editing certification programs allowing you to become certified post-editors?***

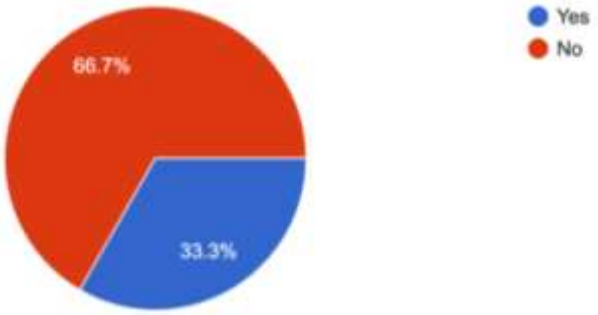


Figure 13. Knowledge of post-editing certified programs

This question investigated the knowledge of participants about certified post-editing programs allowing translators to become post-editors. Most of the answers on this question were no, that is 66.7% of the participants, numbering 12, did not know about such programs, while 33.3% of the participants, i.e., 6 participants, answered with a yes. Figure 18 represents the lack of being updated in new trends in the translation field.

***13. Are you interested in learning the strategies and guidelines of post-editing?***

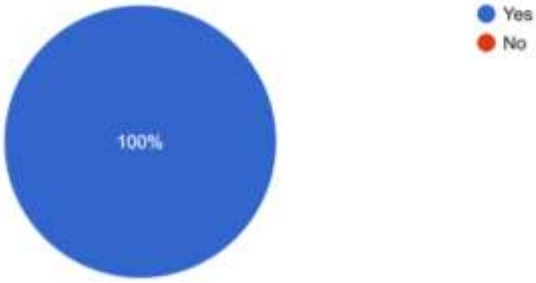


Figure 14. The intention to learn the strategies and guidelines of post-editing

The question here asked the participants if they were interested in learning the strategies and guidelines of post-editing. The answer was 100% unanimous. Figure 14 shows that 100% of the participants reported their keenness in learning post-editing strategies. This is promising since not all the participants know about these standards and guidelines.

***14. Are you interested in becoming a certified post-editor?***

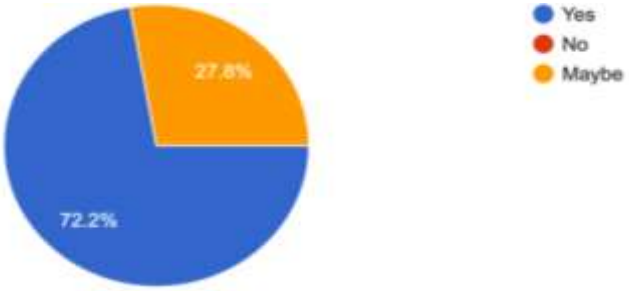


Figure 15. The intention of being a certified post-editor

The last question asked the participants about their intention of being certified post-editors. Figure 15 shows that most of the participants i.e., 72.2% of them intend to become certified post-editors, while 27.8% of them, numbering 5 were not sure so they answered with a maybe. The answers indicate a positive future for translators to become post-editors in Saudi Arabia, yet this does not mean that the results can be generalized.

**5. Discussion**

This study aimed to analyze post-editing practice in Saudi translation centers and translation agencies. The results showed that Saudi translators at agencies and centers are aware of the importance of machine translation in making the task of translation easy and reducing the cost of translation. This finding agrees with the common folks that work have raised due to the growing needs for translating large volume of content in a short time (Christensen & Schjoldager, 2016; O'Brien, 2002; Wu et al., 2016), without losing high-quality and with minimal translation costs (Wu et al., 2016). Thus, MTs kept developing to include different approaches and the research on MT is growing to find better ways to benefit from the machine and raise quality of MT by human translators.

The results of the study show that professional translators agree with the fact that post-editing practice is important., showing that there is good awareness of the importance of post-editing as a practice in the Saudi market. Krings (2001) argued that the post-editor should be an

experienced translator who figures out the problems of MTs and fixes those errors. Sin-Wai (2017) opined that MT outputs include linguistic, terminological, syntactical, referential, stylistic, and typological errors. Yet, there was lack of knowledge about post-editing certifications programs that enable translators to become professional post-editors. Moreover, the results show promising future for post-editing in Saudi Arabia as most of the participants were interested to become certified post-editors. Krings (2001) stated that post-editors should acquire specific skills in technology, linguistics, and problem-solving skills. In this context, earlier, scholars have stressed the importance of acquiring problem-solving skills, overcoming texts problems and technical skills (Al-Tuwayrish, 2016; McElhaney & Vadconcellos, 1988). Moreover, Aranberri (2017), mentioned that the tasks involved in translation and post-editing differ considerably. This difference applies to the different set of skills for post-editing. This reveals how important it is to acquire and focus on specific skills for post-editing. Aranberri (2017) argues that post-editing guidelines often fail to address translators' thoughts about how to post-edit MT outputs, and that translators must be trained to post-edit the MT correctly by training them to spot the ambiguous mistakes that MT makes. Yet, knowing the standards and guidelines is an imperative step for translators in this era.

Finally, the study focused on the efficiency of Saudi translators in applying post-editing standards and guidelines. The results indicate that knowing about post-editing standards and guidelines will be effective, as it will help translators in executing their tasks and handling the outputs of MT. Further, the participants agreed that it is vital to include post-editing in the curricula of translation programs and courses. This reflects the importance and effectiveness of knowing about post-editing standards and guidelines, which will reflect in the good and high-quality results in addition to shortening the time needed in executing large volumes of translation projects. According to Massardo (2019), knowing the engine is one key strategy to begin with post-editing task, as MT engines differ considerably. Further, following the standards and guidelines of post-editing is very important for translators. Standards and guidelines such as TAUS offer great help through aspects like evaluating the engine and advising on automatic post-editing. Moreover, ISO 18587:2017 also guide translators in their post-editing works by setting standards to follow during their post-editing tasks.

## 6. Conclusion

The importance of implementing technology in the translation field is very clear. Technology makes our lives easy, yet we see heavy dependence on MT by some translators and laypersons leading to unnatural and influent results since the machine still makes mistakes. The practice of post editing can solve the issues of errors, inaccuracy and influence caused by the machine. This study investigated post-editing practice in Saudi translation centers and translation agencies. The study surveyed 18 professional translators from different Saudi translation centers and translation agencies. It concluded that the translators participating in the survey are aware of the importance of post-editing practice. It also shows that the participants carry out post-editing tasks if they use MT by following international standards and guidelines. They also stressed the effectiveness of applying standards and guidelines of post-editing and including post-editing in the curricula of translation programs and courses.

The main implication of the study pointed to the importance of implementing post-editing practice in Saudi translation centers and translation agencies to upgrade the quality of the outcomes of MT and to meet the demands of the Saudi Vision 2030 regarding translation. Another implication is shedding the light on the importance of following international standards and guidelines for post-editing which will assist translators in their post-editing tasks. This research is a contribution in the field of translation studies, to shed the light on the importance of post-editing practice, skills, and standards as a professional practice and attempts implementing it professionally in Saudi translation centers and translation agencies

## 7. Recommendations

In the light of the results of this study, it becomes evident that post-editing is one of the important skills that professional translators must know and become efficient in it. As teachers in Translation Courses and as users, we come across of many inaccurate translations that are the product of MT: This does not go along with the goals of Saudi Vision 2030 in the field of translation. Moreover, the rapid development of MT systems has made translation scholars predict that in the future, it is more likely to see translators become post-editors beside their jobs as translators.

The current study suggests the following based on the results.

One, additional empirical studies are needed in analyzing post-editing activity of Saudi translators in specialized texts.

Two, it is imperative to analyze the attitudes of Saudi translation students towards the activity of post-editing.

Thus, further studies should be conducted to collect more data from translators working at translation agencies and translation centers in Saudi Arabia as well the end users of their translations. In addition, qualitative data would add a new dimension to similar results, hence recommended that future studies apply mixed methods.

## 8. Limitations

Notwithstanding its uniqueness, the study was subjected to some limitations, such as the shortage of Arabic references in post-editing practice, surveying a small number of participants, and not considering the language pairs that are most commonly translated and post-edited in KSA using MT. Moreover, temporal limitation devoted to this study affected the process of surveying more participants to gain better perspective and analysis about post-editing practice in Saudi translation centers and translation agencies. Thus, it is important to note that generalizing the results of the study is not possible.

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**Appendix**

| City | Number | Gender | Age | Occupation | Working Place |
|---|---|---|---|---|---|
| Jeddah | 11 | 10 males 1 female | Between 26 to 55 | Professional translators and translation assistant professors | 4 participants between assistant professors and translators answered from Translation and Arabization Center at King Abdulaziz University, 1 professional translator from Alrayyan translation agency, 1 professional translator from Modern Idea translation agency, 1 professional translator from Al Orooba translation agency, 2 professional translators from Al Edreesi translation agency, 1 professional translator from translation world agency and 1 female professional translator who preferred to keep her working place private. |
| Riyadh | 5 | 5 females | unknown | Professional translators | 2 professional translators at SEU translation center, 2 professional translators from King Abdullah Arabization and translation center and 1 professional translator works at a translation company (preferred to keep the place of work private). |
| Dammam | 2 | 2 females | unknown | Professional translators | 2 professional translators who preferred to keep their working places private. |

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