

# **Essential or Obsolete? The Role of Human Competencies in the Tech-Driven Language Services Industry**

Işın ÖNER\* and Zehra Begüm BENGİ\*\*

Rapid technological developments in the language services industry including content creation and translation have always provoked fear among human agents, such as language service providers (LSPs), translators, reviewers, and academicians thinking that technology would eliminate the need for humans. This fear can be traced even back to the years typewriters were invented and used in the language services industry, or personal computers replaced typewriters in the process. The twenty-first century, especially the 2010s, witnessed the emergence and rapid development of machine translation (MT), in particular neural machine translation (NMT). Coupled with the introduction of artificial intelligence (AI), human content creators and translators are now face to face with a new competitor. Although the tools used in the industry have changed in line with the technological advancements, achieving quality output has always required the competence of human content creators and translators. This competence has three important pillars: language skills, expertise in the area of specialization, and technological skills. This paper discusses that technological tools such as MT and generative AI demand human intervention to create and translate quality and effective content, which is only possible by acquiring the complete set of the above skills. Focusing on creating content for user manuals, this paper examines how to ask the correct questions, that is, how to give the correct prompts to guide chatbots such as ChatGPT to achieve quality content, thus identifying the limits and benefits of AI in an area of specialization.

Keywords: human content creators and translators; artificial intelligence; ChatGPT; prompts; competencies

## 1. Introduction

The language services industry has witnessed drastic changes in the last few decades. Even the change of the name from translation bureau to language service provider (LSP) is a sign hinting at the change. In order to understand what this change in name encompasses, we should take a look at the constituents of the new name, i.e., the LSPs. What do these companies provide? They offer all the services a client needs related to languages, of course,

E-mail: iboner@29mayis.edu.tr; ORCID ID: https://orcid.org/0000-0001-7273-7229.

E-mail: begum@diye.com.tr; ORCID~ID: https://orcid.org/0009-0008-0792-0885.

(Received 8 March 2024; accepted 10 June 2024)

<sup>\*</sup> Professor at Istanbul 29 Mayıs University.

<sup>\*\*</sup> Partner at Dive Global Communications, LSP.



© Diye Global Communications diye.com.tr | diye@diye.com.tr

at varying levels depending on the mission and specialization of the LSP. The services offered by LSPs are bookended by services related to the source language (SL) and services related to the target language(s) (TL), which oscillate from the translation of a text from an SL into a TL to the optimization of a source text (ST) or a target text (TT), content creation in an SL and its translation to the TL(s), quality assessment (QA)<sup>1</sup> of the created or translated content, project management, and project coordination. The list goes on. How do these LSPs provide all these services? It is without doubt that LSPs benefit from various technologies in conducting their business. The extent of the use of technology has significantly changed, mostly shifting to a trend of performing every task of a translation process with the help of a technological tool. It is this shift that leads to the re-evaluation of roles in the industry (Öner and Öner Bulut 2021), causing dehumanization and devaluation (S. O'Brien 2012) and instilling fear and 'anxiety' (Vieira 2020) in human agents of losing their jobs, such as translators, revisers, reviewers, proofreaders, project managers, project coordinators, content creators, or simply any human agent involved in the processes (see Massardo and Van der Meer 2017, 8).

This state of the industry made us ask this question: Are human competencies in today's tech-driven language services industry still essential or have they become obsolete? In our search for an answer, we focus on one of the latest technological developments, which has and will have a significant impact on the professional lives of all players in the language services industry: artificial intelligence (AI), especially chatbots. This paper aims to test a chatbot in an area of specialization, user manuals, to see its limits and benefits.

# 2. Computer as an Assistant: 1990s & 2000s

This fear of technology replacing people is not new in the language services industry. Especially since the 1990s, we see that the fear has had its roots in the integration of CAT tools (computer-assisted tools), PM tools (project management tools), terminology extraction tools, convergence tools, etc. into the translation workflows. The origin of all these tools lies in the vast changes in the industry.<sup>2</sup> The widespread use of the Internet around the world motivated software designers to present their products in local languages, resulting in the birth of localization, drawing its name from the nature of augmented workflow items like project

<sup>&</sup>lt;sup>1</sup> For an analysis and discussion of human and machine translation quality assessment, see Castilho et al. (2018).

<sup>&</sup>lt;sup>2</sup> See Alimen, Öner Bulut, and Karadağ (2023) for an overview of technological advancements related to the language services industry. See also Massardo and Van der Meer (2017, 8–12) for a graphic representation of translation technology and a discussion on the future of translation.



© Diye Global Communications diye.com.tr | diye@diye.com.tr

management, engineering and testing of online help or web content, desktop publishing of documents, and functionality testing of localized software or web applications. In this network of relations, translation constitutes one ring of the chain of localization, which also requires parallel activities like 'internationalization' and 'globalization' for achieving healthy outputs (Esselink 2000, 1–24; 2003; Mazur 2007, 346–353). It is understandable that within this network of relations, the pivotal role of technological tools in the emergence and development of this new world in the language services industry was frightening for the 'old school' translators.

# 3. Computer as a Competitor: 2010s & 2020s

Even if the advancements in the tools used in the language services industry caused fear from the 1990s to the 2010s, it was nowhere near to the level of concern felt today by the people in the industry, after the introduction of AI tools. The former component of the term, that is 'artificial,' does not seem to be frightening for the humans, nor does the latter component, that is 'intelligence,' which ascribes directly to humans. However, when the two components merge into one, the term raises questions in one's mind. The definition of the term AI reveals why the term makes humans cautious. **Britannica** defines and gives explanation for the term "AI" as:

the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. (Copeland 2024; emphasis added by authors)

In this definition and explanation of AI, we see that "digital computer or computer-controlled robot . . . perform tasks . . . associated with intelligent beings," that is to say, execute "intellectual processes characteristic of humans." This led to a conundrum in the minds of the language experts—intimidation on one side and excitement on the other. What was to come next?

In the industry, the initial strike came with the launch of neural machine translation (NMT) platforms for the use of the public in 2017. NMT was an example of AI that led to a

\_

<sup>&</sup>lt;sup>3</sup> For an analysis of the relation among 'internationalization,' 'globalization,' 'localization,' and 'translation,' see Brisset and Godbout (2017).



© Diye Global Communications diye.com.tr | diye@diye.com.tr

shock among translators, students of translation programs, academicians, and language experts since the success of NMT might mean the elimination of the need for these people. However, in a short time, it was understood that it was not possible for language experts to just rely on the NMT output. Research on the outputs of NMT proved that the success of machine translation (MT) relied heavily first on the quality of the ST and then on the work done by the human experts<sup>4</sup> on the MT output (see Öner Bulut 2019; Öner and Öner Bulut 2021; Alimen 2023). No matter how advanced an NMT was, it was, in very crude terms, thought to be just another CAT tool. Contrary to the fear of people, NMT created new job positions such as pre-editors and post-editors.

Before fully recovering from the strike of the NMT, the people in the industry were hit by an even stronger one just a few years later, towards the end of 2022 (November 30, 2022), with the launch of a chatbot, ChatGPT (generative pre-trained transformer) by OpenAI. In a very short time, it succeeded in attracting the attention of a large audience.<sup>5</sup> In contrast to the NMT, this AI tool was capable of carrying out conversation with the user and thus modifying its output. It was the user who initiated the conversation with a request. The topic, language, length, style, and various other details were given to the bot in the form of prompts. Despite the great excitement this innovation created, it also raised lots of questions in the minds of the to-be-translators at the colleges and the professionals in the industry. One question was related to their prospective career, or in other words: Would there be jobs available for them in the language services industry at all? The professionals, too, started to question their status, not knowing the benefits and limits of this innovation.

# 4. Computers: Assistants or Competitors?

Although the advances in language technologies, especially the integration of AI, introduced new challenges for the industry, we suggest that generative AI requires human intervention to create and/or translate quality and effective content, which demands acquiring the complete set of skills related to the competent use of language, expertise in the relevant area, and competent use of technology. This led us to the question: Are human competencies in today's tech-driven language services industry still essential or have they become obsolete?

<sup>&</sup>lt;sup>4</sup> For a detailed study of human competencies related to translation, see PACTE (2003 and 2005), Acar (2022), and Öztürk Baydere (2022 and 2023).

<sup>&</sup>lt;sup>5</sup> See Thorbecke (2023) and M. O'Brien (2023).



© Diye Global Communications diye.com.tr | diye@diye.com.tr

To find an answer to this question, we selected ChatGPT4 by Open AI, a generative AI tool, to create content for user manuals, which requires expertise in an area of specialization. Taking into account the scope of this paper, we only focused on the 'repair/maintenance' section of a user manual for a Turkish coffee machine. Since user manuals in Turkey are written in Turkish and then translated into other languages, we decided to use ChatGPT to create content in Turkish.

With this test,<sup>6</sup> we aim to find out how to guide ChatGPT by asking the correct questions, that is, giving the correct prompts, to achieve quality content. The method used is descriptive and explanatory. Findings will be presented at the end of each section, i.e., the prompt and the output received to each prompt. These findings will be discussed under the "Discussion and Conclusion" section below.

Although the original prompts and the outputs by ChatGPT (see Appendix) are in Turkish, for the purposes of this paper, we give the English translation of the prompts and the outputs, done by DeepL. We did not do noteworthy revisions on the translation output since testing the quality of an NMT platform is not within the scope of this paper.

Except for the first prompt, the findings and discussion focus on the warnings due to the space limitations and the utmost importance of warnings in user manuals.

## The Scenario

- The appliance is a Turkish coffee machine.
- The task is to write the Cleaning & Maintenance section of the machine manual (including warnings).
- The use of AI tools is allowed.

## Prompt 1

How should I maintain my coffee machine?

# Output 1

By regularly maintaining your coffee machine, you can extend its lifespan and improve the quality of your coffee. Here are some suggestions for maintaining your coffee machine:

## Daily Maintenance:

1. Cleaning After Use: Clean the coffee container and filter thoroughly after each use.

<sup>&</sup>lt;sup>6</sup> The test was conducted on February 10–11, 2024 using ChatGPT4 by Open AI at https://chatgpt.com.



Coffee residue can build up and reduce the performance of your machine.

2. Emptying the Water Reservoir: Empty and dry the water tank after use. This prevents water stains and limescale build-up.

# Weekly Maintenance:

- 1. Deep Cleaning: Clean the machine by taking apart the components (if any). Wash the components with soapy water and rinse thoroughly.
- 2. Milk Wand (if available): If your machine has a milk wand, clean the end and the inside of the wand. Milk residues inside the wand can cause blockages.

# Monthly Maintenance:

1. Limescale Cleaning: Limescale build-up is a common problem in coffee machines. You can descale your machine using descaling products or vinegar. If your machine's instruction manual has a recommended descaling method, follow it.

Cleaning with Vinegar: Add equal parts water and white vinegar to the water tank. Start your machine and ensure that this mixture passes through all waterways. Then rinse several times with clean water.

2. Coffee Spout: Use a needle or fine wire to clean the coffee outlet section to remove any blockages.

## Annual Maintenance:

1. Professional Service: You can have your machine serviced annually by a professional service. This will keep your machine running smoothly for longer.

#### General Tips:

User Manual: Read your machine's user manual carefully. Each machine may have its own maintenance requirements.

Regular Check: Regularly check your machine's cables, socket and general condition. If you notice any damage or problems, take immediate action.

Regularly maintaining your machine will not only prolong its lifespan but also keep your coffee quality consistently high.

## Findings 1

When we review the 'Daily Maintenance' section of the output, we do not find any information not suitable for a coffee machine. For example, the output does not suggest washing the coffee machine in bleach. However, given our scenario, there are a few issues that stand out:

- Output 1 mentions a coffee container and a filter.
- Our Turkish coffee machine does not have these components.
- There is no warning about electric shock, fire, etc. in any part of the text.



Since Output 1 does not contain any wrong information but is not suitable for our machine, it is clear that the problem does not originate from ChatGPT. However, when we go over Prompt 1, we see that Prompt 1

- is too broad,
- does not mention the appliance is a Turkish coffee machine,
- does not state any special features of the appliance,
- does not say anything about the warnings.

This led us to Prompt 2.

# Prompt 2

We have a Turkish coffee machine. Can you write instructions and safety warnings for cleaning and maintenance of the machine according to the information below? Warning messages and warning symbols should comply with the IEC/IEEE 82079-1:2019 standard.

- 1) The appliance has a removable water tank.
- 2) The top of the appliance is covered with a material not resistant to scratches.
- 3) The inside of the brewing pots is covered with a material not resistant to scratches.
- 4) There is an electrical connection at the base of the brewing pots.
- 5) There are brewing sensors on the ceiling of the brewing chamber, where the brewing pots are placed. The sensors may become stained over time.

# Output 2

# Cleaning and Maintenance Instructions

# Cleaning the Water Tank

- 1. Remove the water tank: Carefully remove the water tank.
- 2. Rinse with clean water: Wash the water tank thoroughly with tap water. Do not use detergent.
- 3. Dry: Dry the water tank with a clean cloth.
- **4. Replace:** Replace the water tank and make sure it is securely seated.

## Cleaning the Brewing Pots

- 1. Remove the pots: Carefully remove the brewing pots from the appliance.
- 2. Use a soft cloth: Clean with a soft cloth or sponge as it is covered with a material not resistant to scratches.
- 3. Do not use detergent: Do not use detergents or abrasive cleaners to avoid damaging the surface of the brewing pots.



- **4. Dry:** Dry the pots with a clean cloth.
- 5. Replace: Replace the pots and make sure they are properly seated.

# Cleaning the Top of the Appliance

- 1. Turn off and unplug the appliance: Make sure the appliance is switched off and unplugged from the mains before starting cleaning.
- **2.** Use a soft cloth: Wipe the appliance with a soft cloth or sponge as it is covered with a material not resistant to scratches.
- 3. Do not use detergent: Do not use detergents or abrasive cleaners to avoid damaging the surface.
- 4. Dry: Dry the surface with a clean cloth.

# Cleaning the Brewing Chamber

- 1. Turn off and unplug the appliance: Make sure the device is switched off and unplugged before starting cleaning.
- **2.** Carefully wipe the sensors: Carefully wipe the brewing sensors with a soft cloth. Gently remove any stains that may have formed over time.
- 3. Dry the surface: Dry the ceiling of the brewing chamber with a clean cloth.

# Safety Warnings

# WARNING: RISK OF ELECTRIC SHOCK!

There is an electrical connection under the brewing pots. Make sure the appliance is switched off and unplugged from the mains when cleaning.

Water or other liquids must not come into contact with the electrical connections.

## WARNING: RISK OF SURFACE SCRATCHES!

The top of the appliance and the brewing pots are coated with a material not resistant to scratches. Do not use hard and abrasive materials when cleaning.

## WARNING: RISK OF BURNS!

Make sure the appliance has cooled down completely before cleaning.

These instructions and warnings are provided to ensure the long life and safe use of your appliance. Please follow the instructions carefully and contact an authorized service center if you have any questions.

# Findings 2

With our new prompt containing important details about the machine, we receive a better output than Output 1, especially with the addition of warnings. As we said above, due to space limitations and the importance of warnings, we will focus on the 'safety warnings' section.



© Diye Global Communications diye.com.tr | diye@diye.com.tr

Even though Prompt 2 states that the text should comply with the IEC/IEEE 82079-1:2019 standard, safety warnings appear at the end of the text. In Section 7.11 Safety-related information of the standard, it is stated that safety notes or warning messages should be given "at the beginning of the information for use" or should be "placed either before the first step or incorporated just before the relevant step of a step-by-step instruction" (IEC/IEEE 2019, 39–40). This is an important oversight since it may cause harm to people or damage to products or the environment.

We prepared another prompt to learn the reason behind this.

# Prompt 3

Is there a reason why safety warnings are at the end?

# Output 3

A more common and user-friendly approach is to place safety warnings front and center in the user manuals. This allows users to see and heed important warnings before they start using or cleaning the device. The IEC/IEEE 82079-1:2019 standard also supports this approach.

# **Updated Instructions**

# Safety Warnings

# WARNING: RISK OF ELECTRIC SHOCK!

There is an electrical connection under the brewing pots. Make sure the appliance is switched off and unplugged from the mains when cleaning.

Water or other liquids must not come into contact with the electrical connections.

## WARNING: RISK OF SURFACE SCRATCHES!

The top of the appliance and the brewing pots are coated with a material not resistant to scratches. Do not use hard and abrasive materials when cleaning.

#### WARNING: RISK OF BURNS!

Make sure the appliance has cooled down completely before cleaning.

[followed by the instructions]

# Findings 3

Without mentioning any improper content in Output 2, ChatGPT moves the 'safety warnings' section to the beginning of the text, stating that this is also supported by the IEC/IEEE 82079-1:2019 standard. Although this is the correct solution, it required a new prompt.



While going over the 'safety warnings,' another point draws our attention: despite the degree of risk, only the word 'warning' is used in all safety-related information.

Prompt 4 is written for clarifying this usage.

# **Prompt 4**

You used the word 'warning' for all safety-related information. 82079 distinguishes among them according to the severity and consequence of the hazard.

# Output 4

According to the IEC/IEEE 82079-1:2019 standard, safety warnings are divided into different categories depending on the severity and consequence of the hazard. These categories are usually grouped under the headings 'Danger,' 'Warning,' and 'Caution':

**Danger**: Used for life-threatening situations.

Warning: Used for situations that carry a risk of serious injury.

**Caution**: Used for situations where there is a risk of minor injury or material damage.

*Updated instructions and safety warnings according to this classification:* 

Safety Warnings

#### DANGER: RISK OF ELECTRIC SHOCK!

There is an electrical connection under the brewing pots. Make sure the appliance is switched off and unplugged from the mains when cleaning.

Water or other liquids must not come into contact with the electrical connections.

#### WARNING: RISK OF BURNS!

Make sure the appliance has cooled down completely before cleaning.

#### CAUTION: RISK OF SURFACE SCRATCHES!

The top of the appliance and the brewing pots are coated with a material not resistant to scratches. Do not use hard and abrasive materials when cleaning.

[followed by the instructions]

# Findings 4

We see that the correct term (danger, warning, or caution) is given to each risk in line with the requirements of the 82079 standard, and the messages are reordered depending on the severity of the risk. However, this output necessitated another prompt.

Continuing with the safety section, another point catches our attention. Although Prompt 2 stated that the brewing pot has an electrical connection, there is no warning about



© Diye Global Communications diye.com.tr | diye@diye.com.tr

not washing the pot in the dishwasher. It may be thought that people may reach this conclusion from the warning, "Water or other liquids must not come into contact with the electrical connections." However, since in some coffee machines, the brewing pot can be washed in dishwashers and the target audience is very large, even very simple warnings about safety should be given.

We prepared Prompt 5 to ask about this issue.

# Prompt 5

There is no information in the warnings about whether the appliance or components should be washed in the dishwasher. What do you think about this?

# Output 5

Adding information about appliances and components that should not be washed in the dishwasher is important for safety and maintenance. Here are the instructions and safety warnings updated with this information:

[following the other safety messages]

## CAUTION: DO NOT WASH IN THE DISHWASHER!

The water tank and brewing pots must not be washed in the dishwasher. Clean only by hand with a soft cloth and water.

[followed by the instructions]

# Findings 5

We see that, after our prompt, a warning about the dishwasher is added.

We continue our evaluation of the safety section. Another important point catches our attention.

There are no warning symbols. However, we especially emphasized this in Prompt 2: Warning messages and warning symbols should comply with the IEC/IEEE 82079-1:2019 standard.

Prompt 6 focuses on this oversight.

## Prompt 6

There are no warning symbols for the warning messages in line with the standards.

## Output 6

Let's update the safety warnings by adding warning symbols according to the standard. Let's reorganize using warning symbols according to IEC/IEEE 82079-



1:2019 standard:

[... the following note appears at the end of the text]

Note: URLs for warning symbols (given as examples) should be obtained from appropriate sources and used in the document.

Since there are no visible URLs, clickable words, or symbols, we immediately write Prompt 7.

# Prompt 7

I cannot see or click on URLs.

## Output 7

You are right, we should directly use symbols instead of URLs. Let's reorganize the instructions by inserting standard warning symbols:

# Safety Warnings

# **DANGER: RISK OF ELECTRIC SHOCK!**

There is an electrical connection under the brewing pots. Make sure the appliance is switched off and unplugged from the mains when cleaning.

Water or other liquids must not come into contact with the electrical connections.

#### **WARNING: RISK OF BURNS!**

Make sure the appliance has cooled down completely before cleaning.

# **CAUTION: RISK OF SURFACE SCRATCHES!**

The top of the appliance and the brewing pots are coated with a material not resistant to scratches. Do not use hard and abrasive materials when cleaning.

# OCAUTION: DO NOT WASH IN THE DISHWASHER!

The water tank and brewing pots must not be washed in the dishwasher. Clean only by hand with a soft cloth and water.

[followed by the instructions]

# Findings 6 & 7

ChatGPT adds some symbols. However, not even one of them complies with standards, although it emphasizes the importance of adding standard warning symbols, which led us to Prompt 8.

# **Prompt 8**

Are you sure these are symbols that comply with the standards?

diye.com.tr | diye@diye.com.tr

# **Output 8**

It is important to use symbols that comply with the IEC/IEEE 82079-1:2019 standard. Let's update the following safety warnings in accordance with the standard:

# Safety Warnings

#### DANGER: RISK OF ELECTRIC SHOCK!

There is an electrical connection under the brewing pots. Make sure the appliance is switched off and unplugged from the mains when cleaning.

Water or other liquids must not come into contact with the electrical connections.

# WARNING: RISK OF BURNS!

Make sure the appliance has cooled down completely before cleaning.

#### CAUTION: RISK OF SURFACE SCRATCHES!

The top of the appliance and the brewing pots are coated with a material not resistant to scratches. Do not use hard and abrasive materials when cleaning.

## CAUTION: DO NOT WASH IN THE DISHWASHER!

The water tank and brewing pots must not be washed in the dishwasher. Clean only by hand with a soft cloth and water.

[... with the following note at the end of the text]

Note: Symbols are given as examples. For actual symbols, symbols from sources conforming to IEC/IEEE 82079-1:2019 should be used.

[followed by the instructions]

# Findings 8

Just like Output 6, there are no visible symbols or URLs. However, when we click the 'copy' button under the output, we reach the following information: <code>![Danger Symbol]</code> (https://www.standardsymbols.com/electric-shock.png) \*\*DANGER: RISK OF ELECTRIC SHOCK!

Although this is not a very user-friendly way to reach the URL, we tried the link, which did not return any result. We understand that there is no such website.

We write our last prompt.

# Prompt 9

Your links don't work. There is no such website.



# **Output 9**

You are right, the links I provided are not real [emphasis added] and not useful to provide symbols conforming to the standards. We can find symbols conforming to IEC/IEEE 82079-1:2019 standards directly in the documents or from the relevant standard documents. However, here we can define symbols as text with explanations as an example [for the last sentence, the Turkish output is unintelligible].

# Safety Warnings

# **♦** DANGER: RISK OF ELECTRIC SHOCK!

There is an electrical connection under the brewing pots. Make sure the appliance is switched off and unplugged from the mains when cleaning.

Water or other liquids must not come into contact with the electrical connections.

# **WARNING: RISK OF BURNS!**

Make sure the appliance has cooled down completely before cleaning.

# **A** CAUTION: RISK OF SURFACE SCRATCHES!

The top of the appliance and the brewing pots are coated with a material not resistant to scratches. Do not use hard and abrasive materials when cleaning.

# **O** CAUTION: DO NOT WASH IN THE DISHWASHER!

The water tank and brewing pots must not be washed in the dishwasher. Clean only by hand with a soft cloth and water.

[... at the end of the text there is the following note]

Note: To use safety symbols in accordance with the standards, the symbols must be obtained from the IEC/IEEE 82079-1:2019 standard documents or the relevant safety symbols manuals.

[followed by the instructions]

## Findings 9

ChatGPT's response is both surprising and unsettling. We understand that the information provided by ChatGPT may not always be accurate, which leads to the conclusion that if any information provided by ChatGPT is used without any check by an expert, there may arise some problems, in some cases life-threatening situations, when the output is used as part of, for example, user manuals. It is clear that ChatGPT states that the symbols given are not appropriate, but we reach this information only after questioning previous outputs.



© Diye Global Communications diye.com.tr | diye@diye.com.tr

## **5. Discussion and Conclusion**

After an overview of the findings for nine prompts, we understand that, despite its benefits such as speed, efficiency, and cost, ChatGPT has very important shortcomings. Even after we gave a detailed prompt (Prompt 2) stating all the requirements, ChatGPT made significant errors, provided false information, or did not take our instructions into account. It took seven more prompts, after Prompt 2, to reach a 'somewhat satisfactory' output, which requires extensive revision by an expert so that the output meets our requirements in line with the standards.

Returning to our suggestion that generative AI requires human intervention to create and/or translate quality and effective content, which demands acquiring the complete set of skills related to the competent use of language, expertise in the relevant area, and competent use of technology, our study shows that receiving quality and proper content from ChatGPT is possible only with 'human-machine collaboration' (Wang 2023, 5), making way for 'human-centered augmented translation' (S. O'Brien 2023), which draws from and amplifies human intelligence.

In the current state of the art, while AI offers speed and efficiency, a human content creator with language skills, technological skills, and competence in the relevant area of expertise can fact-check AI outputs and prepare prompts to guide AI to modify the content, which proves that human competencies are still essential and play a significant, perhaps a bigger, role in the industry. For such a human professional who builds and improves these competencies, there is no place for fear or anxiety.

# **Appendix**

# PROMPTS TO CHATGPT4 AND ITS OUTPUTS

# PROMPT AND OUTPUT 1

Kahve makinemin bakımını nasıl yapmalıyım?

\$

Kahve makinenizin bakımını düzenli olarak yaparak makinenizin ömrünü uzatabilir ve kahve kalitesini artırabilirsiniz. İşte Türk kahve makinenizin bakımını yapmak için bazı öneriler:

#### Günlük Bakım:

- Kullanımdan Sonra Temizlik: Her kullanımdan sonra kahve haznesini ve filtreyi iyice temizleyin.
   Kahve kalıntıları birikerek makinenizin performansını düşürebilir.
- 2. **Su Haznesini Boşaltma**: Kullanım sonrasında su haznesini boşaltın ve kurulayın. Bu, su lekelerinin ve kireç oluşumunun önüne geçer.

#### Haftalık Bakım:

- Derin Temizlik: Makinenin parçalarını ayırarak (varsa) temizleyin. Parçaları sabunlu su ile yıkayıp iyice durulayın.
- 2. **Süt Çubuğu (Var İse)**: Eğer makinenizde süt çubuğu varsa, çubuğun ucunu ve içini temizleyin. Çubuğun içindeki süt kalıntıları tıkanmalara neden olabilir.

#### Aylık Bakım:

- Kireç Temizliği: Kahve makinelerinde kireç birikimi yaygın bir sorundur. Kireç temizleyici ürünler veya sirke kullanarak makinenizi kireçten arındırabilirsiniz. Makinenizin kullanma kılavuzunda önerilen kireç temizleme yöntemi varsa, bu yöntemi uygulayın.
  - Sirke ile Temizlik: Su haznesine eşit miktarda su ve beyaz sirke ekleyin. Makinenizi
    çalıştırarak bu karışımın tüm su yollarından geçmesini sağlayın. Ardından birkaç kez temiz su
    ile durulama yapın.
- 2. **Kahve Çıkış Bölümü**: Kahve çıkış bölümünü temizlemek için bir iğne veya ince bir tel kullanarak tıkanmaları giderin.

#### Yıllık Bakım:

 Profesyonel Servis: Makinenizin yıllık bakımını profesyonel bir servise yaptırabilirsiniz. Bu, makinenizin daha uzun süre sorunsuz çalışmasını sağlar.

#### Genel İpuçları:

- Kullanım Kılavuzu: Makinenizin kullanım kılavuzunu dikkatlice okuyun. Her makinenin kendine özgü bakım gereksinimleri olabilir.
- Düzenli Kontrol: Makinenizin kablolarını, prizini ve genel durumunu düzenli olarak kontrol edin.
   Herhangi bir hasar veya sorun fark ederseniz, hemen müdahale edin.

Makinenizin bakımını düzenli olarak yapmak, hem makinenizin ömrünü uzatır hem de kahve kalitenizi sürekli yüksek tutar.



#### PROMPT AND OUTPUT 2

Bir Türk kahvesi makinemiz mevcut. Aşağıdaki bilgilere göre makinenin temizlik ve bakımıyla ilgili talimatlar ve güvenlik uyarılarını yazar mısın? Uyarı mesajlarının yazımında ve uyarı sembollerinin kullanımında IEC/IEEE 82079-1:2019 standardına uyulmalı.

- 1) Cihazın çıkarılabilir su deposu mevcut.
- 2) Cihazın üstü çizilebilir malzemeyle kaplı.
- 3) Pişirme haznelerinin için çizilebilir malzemeyle kaplı.
- 4) Pişirme haznelerinin altında elektrik bağlantısı mevcut.
- Pişirme haznelerinin yerleştirildiği pişirme odasının tavanında pişirme sensörleri mevcut. Üstünde zamanla lekelenebilir.



Bellek güncellendi

#### Temizlik ve Bakım Talimatları

#### Su Deposunun Temizlenmesi

- 1. Su deposunu çıkarın: Su deposunu dikkatlice yerinden çıkarın.
- 2. Temiz su ile yıkayın: Su deposunu musluk suyu ile iyice yıkayın. Deterjan kullanmayın.
- 3. Kurulayın: Su deposunu temiz bir bez ile kurulayın.
- 4. Yerine takın: Su deposunu yerine takın ve güvenli şekilde oturduğundan emin olun.

#### Pişirme Haznelerinin Temizlenmesi

- 1. Hazneleri çıkarın: Pişirme haznelerini dikkatlice cihazdan çıkarın.
- Yumuşak bez kullanın: Çizilebilir malzeme ile kaplı olduğu için yumuşak bir bez veya sünger kullanarak temizleyin.
- Deterjan kullanmayın: Pişirme haznelerinin yüzeyine zarar vermemek için deterjan veya aşındırıcı temizleyiciler kullanmayın.
- 4. Kurulayın: Temiz bir bez ile hazneleri kurulayın.
- 5. Yerine takın: Hazneleri yerine takın ve düzgün bir şekilde oturduğundan emin olun.

#### Cihazın Üstünün Temizlenmesi

- Cihazı kapatın ve fişini çekin: Temizliğe başlamadan önce cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Yumuşak bez kullanın: Çizilebilir malzeme ile kaplı olduğu için cihazın üstünü yumuşak bir bez veya sünger ile silin.
- Deterjan kullanmayın: Yüzeye zarar vermemek için deterjan veya aşındırıcı temizleyiciler kullanmayın.
- 4. Kurulayın: Temiz bir bez ile yüzeyi kurulayın.



# Pişirme Odasının Temizlenmesi

- Cihazı kapatın ve fişini çekin: Temizliğe başlamadan önce cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Sensörleri dikkatlice silin: Pişirme sensörlerini yumuşak bir bez ile dikkatlice silin. Zamanla oluşabilecek lekeleri nazikçe temizleyin.
- 3. Yüzeyi kurulayın: Pişirme odasının tavanını temiz bir bez ile kurulayın.

# Güvenlik Uyarıları

## UYARI: ELEKTRİK ÇARPMASI RİSKİ!

- Pişirme haznelerinin altında elektrik bağlantısı bulunmaktadır. Temizlik sırasında cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Elektrik bağlantılarına su veya başka sıvılar temas etmemelidir.

#### UYARI: YÜZEY ÇİZİLME RİSKİ!

 Cihazın üstü ve pişirme hazneleri çizilebilir malzeme ile kaplıdır. Temizlik sırasında sert ve aşındırıcı malzemeler kullanmayın.

#### **UYARI: YANIK RİSKİ!**

• Cihazın temizliğine başlamadan önce tamamen soğuduğundan emin olun.

Bu talimatlar ve uyarılar, cihazınızın uzun ömürlü ve güvenli kullanımını sağlamak amacıyla verilmiştir. Lütfen talimatlara dikkatle uyunuz ve herhangi bir sorunuz olması durumunda yetkili servise başvurunuz.

#### PROMPT AND OUTPUT 3

Güvenlik uyarılarının sonda yer almasının bir nedeni var mı?



Güvenlik uyarılarının kullanım kılavuzlarında önde veya başta yer alması daha yaygın ve kullanıcı dostu bir yaklaşımdır. Bu, kullanıcıların cihazı kullanmaya veya temizlemeye başlamadan önce önemli uyarıları görmelerini ve dikkate almalarını sağlar. IEC/IEEE 82079-1:2019 standardı da bu yaklaşımı desteklemektedir.

# Güncellenmiş Talimatlar

# Güvenlik Uyarıları

UYARI: ELEKTRİK ÇARPMASI RİSKİ!

- Pişirme haznelerinin altında elektrik bağlantısı bulunmaktadır. Temizlik sırasında cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Elektrik bağlantılarına su veya başka sıvılar temas etmemelidir.

#### UYARI: YÜZEY ÇİZİLME RİSKİ!

 Cihazın üstü ve pişirme hazneleri çizilebilir malzeme ile kaplıdır. Temizlik sırasında sert ve aşındırıcı malzemeler kullanmayın.

#### UYARI: YANIK RİSKİ!

• Cihazın temizliğine başlamadan önce tamamen soğuduğundan emin olun.

#### Temizlik ve Bakım Talimatları

# Su Deposunun Temizlenmesi

- 1. Su deposunu çıkarın: Su deposunu dikkatlice yerinden çıkarın.
- 2. Temiz su ile yıkayın: Su deposunu musluk suyu ile iyice yıkayın. Deterjan kullanmayın.
- 3. Kurulayın: Su deposunu temiz bir bez ile kurulayın.
- 4. Yerine takın: Su deposunu yerine takın ve güvenli şekilde oturduğundan emin olun.



#### PROMPT AND OUTPUT 4

Uyarıların tamamı için "uyarı" sözcüğünü kullanmışsın. 82079 tehlikenin şiddetine ve sonucuna göre uyarılar arasında ayrım yapıyor.

\$

IEC/IEEE 82079-1:2019 standardına göre, tehlikenin şiddetine ve sonucuna bağlı olarak güvenlik uyarıları farklı kategorilere ayrılmaktadır. Bu kategoriler genellikle "Tehlike", "Uyarı" ve "Dikkat" başlıkları altında toplanır:

- Tehlike (Danger): Hayati tehlike arz eden durumlar için kullanılır.
- Uyarı (Warning): Ciddi yaralanma riski taşıyan durumlar için kullanılır.
- Dikkat (Caution): Hafif yaralanma veya maddi hasar riski taşıyan durumlar için kullanılır.

Bu sınıflandırmaya göre güncellenmiş talimatlar ve güvenlik uyarıları:

# Güvenlik Uyarıları

#### TEHLİKE: ELEKTRİK ÇARPMASI RİSKİ!

- Pişirme haznelerinin altında elektrik bağlantısı bulunmaktadır. Temizlik sırasında cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Elektrik bağlantılarına su veya başka sıvılar temas etmemelidir.

# Uyarı: YANIK RİSKİ!

• Cihazın temizliğine başlamadan önce tamamen soğuduğundan emin olun.

## DİKKAT: YÜZEY ÇİZİLME RİSKİ!

 Cihazın üstü ve pişirme hazneleri çizilebilir malzeme ile kaplıdır. Temizlik sırasında sert ve aşındırıcı malzemeler kullanmayın.

#### Temizlik ve Bakım Talimatları

# Su Deposunun Temizlenmesi

- 1. Su deposunu çıkarın: Su deposunu dikkatlice yerinden çıkarın.
- 2. Temiz su ile yıkayın: Su deposunu musluk suyu ile iyice yıkayın. Deterjan kullanmayın.
- 3. Kurulayın: Su deposunu temiz bir bez ile kurulayın.
- 4. Yerine takın: Su deposunu yerine takın ve güvenli şekilde oturduğundan emin olun.



#### PROMPT AND OUTPUT 5

Uyarılarda cihaz veya parçaların bulaşık makinesinde yıkanıp yıkanmaması konusunda bir bilgi yok. Bu konuda ne diyorsun?



Bulaşık makinesinde yıkanmaması gereken cihaz ve parçalar hakkında bilgi eklemek güvenlik ve bakım açısından önemlidir. İşte bu bilgi ile güncellenmiş talimatlar ve güvenlik uyarıları:

# Güvenlik Uyarıları

## TEHLİKE: ELEKTRİK ÇARPMASI RİSKİ!

- Pişirme haznelerinin altında elektrik bağlantısı bulunmaktadır. Temizlik sırasında cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Elektrik bağlantılarına su veya başka sıvılar temas etmemelidir.

#### UYARI: YANIK RİSKİ!

• Cihazın temizliğine başlamadan önce tamamen soğuduğundan emin olun.

#### DİKKAT: YÜZEY ÇİZİLME RİSKİ!

 Cihazın üstü ve pişirme hazneleri çizilebilir malzeme ile kaplıdır. Temizlik sırasında sert ve aşındırıcı malzemeler kullanmayın.

#### DİKKAT: BULAŞIK MAKİNESİNDE YIKANMAMALIDIR!

 Su deposu ve pişirme hazneleri bulaşık makinesinde yıkanmamalıdır. Yalnızca elde, yumuşak bez ve su ile temizleyin.

#### Temizlik ve Bakım Talimatları

# Su Deposunun Temizlenmesi

- 1. Su deposunu dikkatlice yerinden çıkarın.
- 2. Su deposunu musluk suyu ile iyice yıkayın. Deterjan kullanmayın.
- 3. Temiz bir bez ile su deposunu kurulayın.
- 4. Su deposunu yerine takın ve güvenli şekilde oturduğundan emin olun.



#### PROMPT AND OUTPUT 6

Uyarı bölümüne geri dönersek, uyarılar için standartlara uygun hiçbir uyarı sembolü yok.



Standartlara uygun uyarı sembollerini ekleyerek güvenlik uyarılarını güncelleyelim. IEC/IEEE 82079-1:2019 standardına göre uyarı sembollerini kullanarak yeniden düzenleyelim:

# Güvenlik Uyarıları

## TEHLİKE: ELEKTRİK ÇARPMASI RİSKİ!

- Pişirme haznelerinin altında elektrik bağlantısı bulunmaktadır. Temizlik sırasında cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Elektrik bağlantılarına su veya başka sıvılar temas etmemelidir.

#### UYARI: YANIK RİSKİ!

• Cihazın temizliğine başlamadan önce tamamen soğuduğundan emin olun.

#### DİKKAT: YÜZEY ÇİZİLME RİSKİ!

 Cihazın üstü ve pişirme hazneleri çizilebilir malzeme ile kaplıdır. Temizlik sırasında sert ve aşındırıcı malzemeler kullanmayın.

### DİKKAT: BULAŞIK MAKİNESİNDE YIKANMAMALIDIR!

 Su deposu ve pişirme hazneleri bulaşık makinesinde yıkanmamalıdır. Yalnızca elde, yumuşak bez ve su ile temizleyin.

#### PROMPT AND OUTPUT 7

URL'leri göremiyorum veya tıklayamıyorum.

\$

Haklısınız, URL'lerin yerine doğrudan sembolleri kullanmalıyız. Standart uyarı sembollerini yerleştirerek talimatları yeniden düzenleyelim:

# Güvenlik Uyarıları

- TEHLİKE: ELEKTRİK ÇARPMASI RİSKİ!
- Pişirme haznelerinin altında elektrik bağlantısı bulunmaktadır. Temizlik sırasında cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Elektrik bağlantılarına su veya başka sıvılar temas etmemelidir.
- UYARI: YANIK RİSKİ!
- Cihazın temizliğine başlamadan önce tamamen soğuduğundan emin olun.
- O DİKKAT: YÜZEY ÇİZİLME RİSKİ!
- Cihazın üstü ve pişirme hazneleri çizilebilir malzeme ile kaplıdır. Temizlik sırasında sert ve aşındırıcı malzemeler kullanmayın.
- O DİKKAT: BULAŞIK MAKİNESİNDE YIKANMAMALIDIR!
- Su deposu ve pişirme hazneleri bulaşık makinesinde yıkanmamalıdır. Yalnızca elde, yumuşak bez ve su ile temizleyin.

diye.com.tr | diye@diye.com.tr

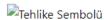
#### PROMPT AND OUTPUT 8

Bunların standartlara uygun semboller olduğuna emin misin?



IEC/IEEE 82079-1:2019 standartlarına uygun sembolleri kullanmak önemlidir. Standartlara uygun olarak aşağıdaki güvenlik uyarılarını güncelleyelim:

# Güvenlik Uyarıları



## TEHLİKE: ELEKTRİK ÇARPMASI RİSKİ!

- Pişirme haznelerinin altında elektrik bağlantısı bulunmaktadır. Temizlik sırasında cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Elektrik bağlantılarına su veya başka sıvılar temas etmemelidir.

#### **UYARI: YANIK RİSKİ!**

Cihazın temizliğine başlamadan önce tamamen soğuduğundan emin olun.

# DİKKAT: YÜZEY ÇİZİLME RİSKİ!

 Cihazın üstü ve pişirme hazneleri çizilebilir malzeme ile kaplıdır. Temizlik sırasında sert ve aşındırıcı malzemeler kullanmayın.

# DİKKAT: BULAŞIK MAKİNESİNDE YIKANMAMALIDIR!

 Su deposu ve pişirme hazneleri bulaşık makinesinde yıkanmamalıdır. Yalnızca elde, yumuşak bez ve su ile temizleyin.

**Not**: Semboller örnek olarak verilmiştir. Gerçek semboller için IEC/IEEE 82079-1:2019 standartlarına uygun kaynaklardan temin edilen semboller kullanılmalıdır.

diye.com.tr | diye@diye.com.tr

#### PROMPT AND OUTPUT 9

Verdiğin linkler çalışmıyor. Böyle bir websitesi yok.

https://www.standardsymbols.com/electric-shock.png



Haklısınız, verdiğim linkler gerçek değil ve standartlara uygun semboller sağlamak için kullanışlı değiller. IEC/IEEE 82079-1:2019 standartlarına uygun sembolleri doğrudan dökümanlarda veya ilgili standart dokümanlarından bulabiliriz. Ancak burada örnek olarak açıklamalarla birlikte metin olarak sembolleri tanımlayabiliriz.

# Güvenlik Uyarıları

## TEHLİKE: ELEKTRİK ÇARPMASI RİSKİ!

- Pişirme haznelerinin altında elektrik bağlantısı bulunmaktadır. Temizlik sırasında cihazın kapalı ve fişinin prizden çekili olduğundan emin olun.
- Elektrik bağlantılarına su veya başka sıvılar temas etmemelidir.

# O UYARI: YANIK RİSKİ!

• Cihazın temizliğine başlamadan önce tamamen soğuduğundan emin olun.

## DİKKAT: YÜZEY ÇİZİLME RİSKİ!

 Cihazın üstü ve pişirme hazneleri çizilebilir malzeme ile kaplıdır. Temizlik sırasında sert ve aşındırıcı malzemeler kullanmayın.

## O DİKKAT: BULAŞIK MAKİNESİNDE YIKANMAMALIDIR!

 Su deposu ve pişirme hazneleri bulaşık makinesinde yıkanmamalıdır. Yalnızca elde, yumuşak bez ve su ile temizleyin.

**Not:** Güvenlik sembollerini standartlara uygun olarak kullanmak için, semboller IEC/IEEE 82079-1:2019 standart dokümanlarından veya ilgili güvenlik sembolleri kılavuzlarından temin edilmelidir.



# References

- Acar, Ferit. 2022. "A Study on Operationalizing Applied English Translation Programs in Turkey: An Examination in Terms of Competencies, Sector and Academy." Unpublished PhD diss., Istanbul 29 Mayıs University.
- Alimen, Nilüfer. 2023. "Makine Çevirisinden Sohbet Robotu Çevirisine: ChatGPT ile Deneysel Bir Çalışma." [From machine translation to chatbot translation: An experimental study with ChatGPT.] *RumeliDE Journal of Language and Literature Studies*, no. 36, 1532–1548. doi:10.29000/rumelide.1369589.
- Alimen, Nilüfer, Senem Öner Bulut, and Ayşe Banu Karadağ. 2023. "Yapay Zekâ, Dil ve Çeviri." [AI, language, and translation.] In *Yapay Zekâ: Disiplinlerarası Yaklaşımlar* [AI: Interdisciplinary approaches], edited by Berrin Küçükcan and Banu Fulya Yıldırım, 81–103. Istanbul: Vakıfbank Kültür.
- Brisset, Annie, and Marielle Godbout. 2017. "Globalization, Translation and Cultural Diversity." *Translation and Interpreting Studies. The Journal of the American Translation and Interpreting Studies Association* 12 (2): 253–277. doi:10.1075/tis.12.2.04bri.
- Castilho, Sheila, Stephen Doherty, Federico Gaspari, and Joss Moorkens. 2018. "Approaches to Human and Machine Translation Quality Assessment." In *Translation Quality Assessment*. Machine Translation: Technologies and Applications, edited by Joss Moorkens, Sheila Castilho, Federico Gaspari, and Stephen Doherty, 9–38. Cham: Springer.
- Copeland, B. J. 2024. "Artificial Intelligence." *Britannica Online Encyclopedia*. Accessed March 5, 2024. https://www.britannica.com/technology/artificial-intelligence.
- Esselink, Bert. 2000. A Practical Guide to Localization. Amsterdam: John Benjamins.
- ———. 2003. "The Evolution of Localization." *Localization: The Guide from MultiLingual Computing & Technology* #57 Supplement, July/August, 4–7. Idaho: MultiLingual Computing, Inc.
- IEC/IEEE. 2019. IEC/IEEE 82079-1:2019 Preparation of Information for Use (Instructions for Use) of Products Part 1: Principles and General Requirements.
- Massardo, Isabella, and Jaap Van der Meer. *The Translation Industry in 2022, A Report from the TAUS Industry Summit Amsterdam, March 22–24, 2017.* De Rijp: TAUS BV.
- Mazur, Iwona. 2007. "The Metalanguage of Localization Theory and Practice." *Target* 19 (2): 337–357. doi:10.1075/target.19.2.11maz.



- O'Brien, Matt. 2023: "2023: The Year We Played with Artificial Intelligence and Weren't Sure What to Do about It." *The Associated Press*. December 14. https://apnews.com/article/ai-2023-artificial-intelligence-chatgpt-dangers-565ff5b817b5db0d4e74829ae3d68611.
- O'Brien, Sharon. 2012. "Translation as Human–Computer Interaction." *Translation Spaces* 1 (1): 101–122. doi:10.1075/ts.1.05obr.
- ———. 2023. "Human-Centered Augmented Translation: Against Antagonistic Dualisms." *Perspectives* 32 (3): 391–406. doi:10.1080/0907676X.2023.2247423.
- Öner Bulut, Senem. 2019. "Integrating Machine Translation into Translator Training: Towards 'Human Translator Competence'?" *transLogos Translation Studies Journal* 2 (2): 1–26. doi:10.29228/transLogos.11.
- Öner, Işın, and Senem Öner Bulut. 2021. "Post-Editing Oriented Human Quality Evaluation of Neural Machine Translation in Translator Training: A Study on Perceived Difficulties and Benefits." *transLogos Translation Studies Journal* 4 (1): 100–124. doi:10.29228/transLogos.33.
- Öztürk Baydere, Hilal. 2022. "Makine Çevirisi ve Dijitalleşme Bağlamında Çevirmenlik Mesleğinin Dönüşümü." [Transformation of the translation profession within the context of machine translation and digitalization.] Unpublished PhD diss, Istanbul University.
- ——. 2023. "Rethinking Translator Competence in the Machine Translation Era." transLogos Translation Studies Journal 6 (1): 45–74. doi:10.29228/transLogos.54.
- PACTE. 2003. "Building a Translation Competence Model." In *Triangulating Translation: Perspectives in Process Oriented Research*, edited by Fabio Alves, 43–66. Amsterdam: John Benjamins.
- ——. 2005. "Investigating Translation Competence: Conceptual and Methodological Issues." *Meta* 50 (2): 609–619. doi:10.7202/011004ar.
- Thorbecke, Catherine. 2023. "A Year after ChatGPT's Release, the AI Revolution Is Just Beginning." *CNN*. November 30. https://edition.cnn.com/2023/11/30/tech/chatgpt-openairevolution-one-year/index.html.
- Vieira, Lucas Nunes. 2020. "Automation Anxiety and Translators." *Translation Studies* 13 (1): 1–21. doi:10.1080/14781700.2018.1543613.
- Wang, Lan. 2023. "The Impacts and Challenges of Artificial Intelligence Translation Tool on Translation Professionals." *SHS Web of Conferences* 163:1–6. doi:10.1051/shsconf/202316302021.