

Can Technical Communicators Benefit from AI Text Generators?

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Abstract

ChatGPT changed (almost) everyone's lives this year, we all started to worry about our future and wonder if AI could replace us in a few years. With this article research, we wanted to see how technical communicators can use these new tools for their benefit instead of being fearful of their future. This paper is based on a survey of 46 professionals, with more than 50% with jobs related to the technical communication field. The respondents were asked about their knowledge and their use of AI text generators.

The results allowed us to determine the benefits and the limits of AI text generators for technical communicators. Our study suggests that quite a few professionals already use AI tools to help them gain time and be more efficient. Technical communicators often use them for proofreading, rewriting sentences and translation. Although AI text generators are becoming more and more popular among professionals, they still have a lot to prove...

Keywords : technical communication, Artificial Intelligence, Chat GPT, technical writing, limitations, advantages

Acknowledgements

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Introduction

Chat GPT, developed by OpenAI and released in 2022 has revolutionized our thinking, communication, and engagement, shaping both professional and personal spheres. Its impact is evident through the numerous conversations, articles, interviews, and reports mentioning this transformative tool.

The arrival of this tool, capable of answering our most complex questions and solving our most challenging problems, has given rise to many questions about the future and the place of text generators in human life. Indeed, many have wondered whether this revolutionary tool could limit human intelligence. Could it even replace human beings in the performance of their tasks?

These are legitimate questions. Companies keep looking for more efficient, high-quality and cost-effective solutions. Have we not witnessed the disappearance or significant decline of numerous professions due to new technologies? Translation is a striking example. Since the emergence of low-cost, fast and high-quality automatic translators, many translators job now consist of proofreading translations produced by these tools.

There's no denying that AI is changing corporate life: it is disrupting processes and the distribution of tasks, prompting employees to constantly update their knowledge, it can help improve (or not) a product or service, etc...

Inspired by the changes brought by AI in certain professions, our group of technical communication students wondered how AI might impact our professional field. So, as part of this university research paper program, we have decided to answer the following question: Can AI revolutionize technical communication, and how can technical communicators benefit from it ?

In order to answer this question, we collected responses from more than forty professionals (the majority of whom are technical communicators), the use and testing of several text generators, and our own analytical skills.

First, we'll present our survey's feedback. Then we'll analyze these results to find out whether text generators have already or will revolutionize the technical communication professions, and attempt to determine how these professionals can prepare themselves and use AI to their benefit.

Methods

To conduct serious and unbiased research, we chose to rely on scientific data. As we couldn't find any studies on the impact of AI on the technical communication professions, we decided to gather them ourselves with a survey in the form of a poll. We aimed to collect testimonials from professionals - mainly in technical communication - about their professional relationships with AI.

Creating the survey

Before beginning the drafts of our survey, we had to think about its target and establish its structure. We came up with the following questions:

- Who do we want to interview?
- What type of information are we looking for? Is it quantitative or qualitative?
- What questions are we going to ask? How will the answers contribute to our research?

Based on the principle that we need to know who the respondents are before we get to know how they act, we drafted a few questions about the identity of the professionals we interviewed. We needed to know their profession and age.

Then we drafted a second set of questions to determine their knowledge of AI tools.

We then turned to the heart of the matter: the respondents' experience with AI. First, we left space for those who don't use AI to explain why they've never used these tools.

Secondly, we focused on those who had experience using these tools. This part of the survey allowed us to find out more: how often, for what purposes do they use AI and above all, what is their level of satisfaction, and do they intend to continue using these tools in the future?

Sharing the survey

In order to collect multiple quality responses, we published this survey on the LinkedIn professional network, introducing our research and objectives.

We would like to take this opportunity to thank all our fellow Master CTM students who kindly agreed to relay our survey to their respective networks.

We also sent this survey to a list of our university alumni.

Tools

We have decided to create our survey with GoogleForm. It is a very versatile tool that also works well with GoogleSheet. It made it quick and easy to directly export the results into a table.

Results

Our survey targeted professionals in any field. We collected 46 answers in total.

We began the survey by asking the respondents their age. Our goal was to see if age influences other responses to this survey (for instance, not knowing text generators).

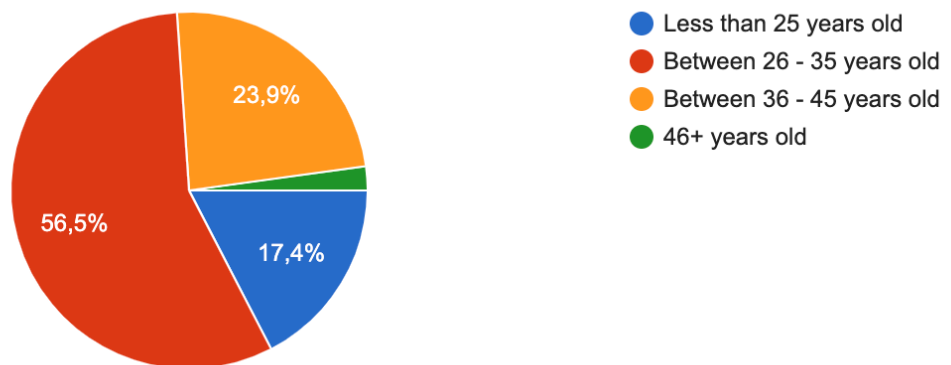


Figure 1 "How old are you?"

The majority of the respondents (56.5%) are between the ages 26 and 35. In the second place, 23.9% answered that they are between 36 and 45 years old. 17.4% responded that they are less than 25 years old, and only one person is more than 46 years old.

Jobs

We asked the respondents to give us their job titles. We decided to open this survey to everyone to see how different professionals use AI text generators.

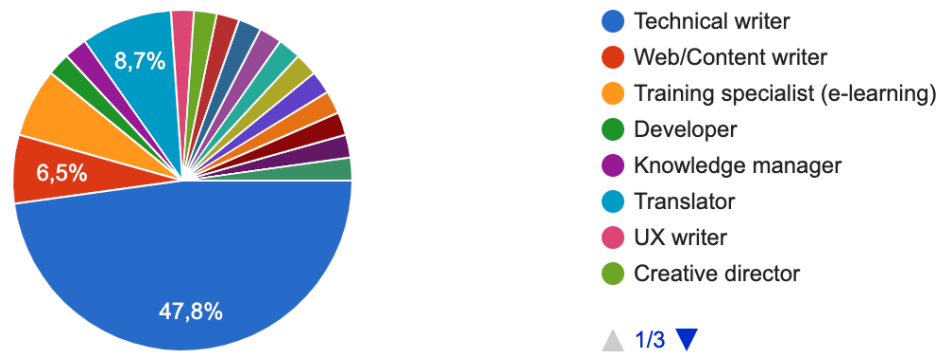


Figure 2 "What is your job?"

The majority of the respondents are technical writers (47.8%). Other jobs related to the technical communication field are represented in this survey such as: translator (8.7%), training specialist (6.5%), 1 knowledge manager, 1 UX Writer, 1 information architect, 1 lead documentation and 1 person that has two roles (technical writer and translator). On the other hand, we collected answers from 3 content writers (6.5%), 2 documentalists (4.4%), 1 developer, 1 creative director, 1 engineer (civil engineering), 1 system engineer, 1 optician and 1 accountant.

Knowledge of Text Generators

Then, we wrote the name of various text generators and asked if the respondents knew any of these. They could vote for multiple text generators and the last option was open-ended so respondents could add another AI tool.

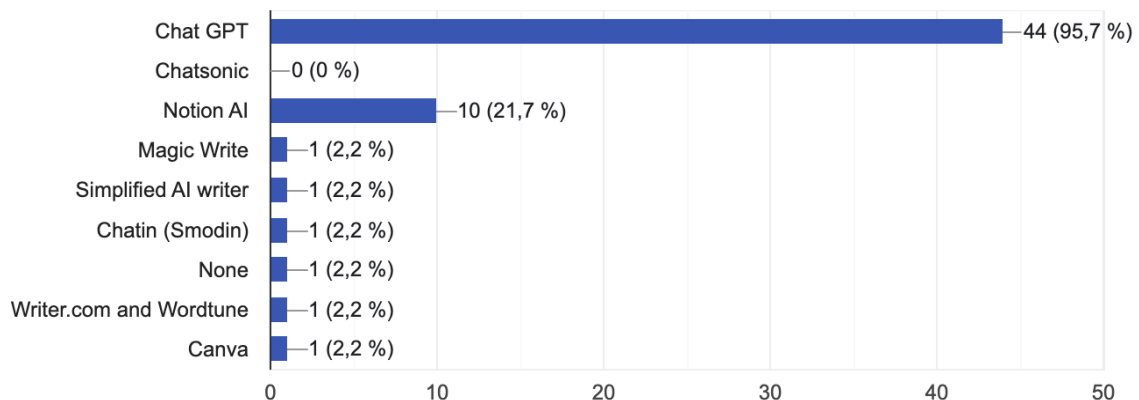


Figure 3 "Which text generators have you heard of?"

The most voted text generator is Chat-GPT with 44 votes, followed by Notion AI which has received 10 votes. Notion AI, Magic Write, Simplified AI Writer, Chatin (Smodin) have one vote each. 1 person added Writer.com and Wordtune and another person added Canva. Only one person didn't know any of these text generators.

Using Text Generators

We asked if the respondents had already used a text generator in a professional context.

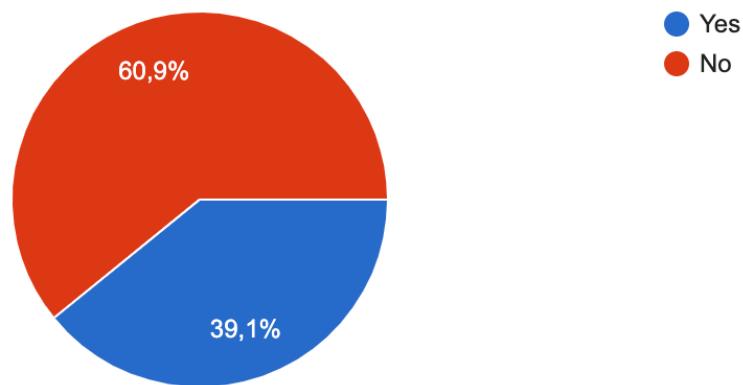


Figure 4 "Have you ever used a text generator (such as Chat-GPT) in a professional context?"

18 respondents (39.1%) answered that they have used a text generator at least one time in a professional context, while 28 (60.9%) said they have never used it.

After this question, the survey splits into two parts. The respondents who answered "yes" will have different questions than the respondents who said "no".

For Respondents Who Have Used Text Generators

We asked the 18 respondents who answered that they have used a text generator in which context they have used it. The respondents could choose multiple answers.

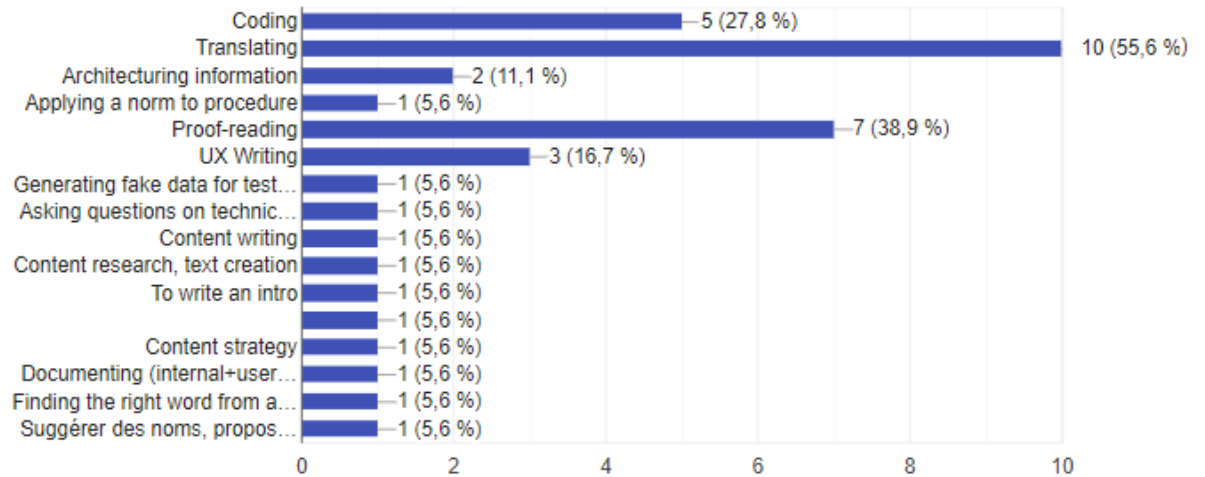


Figure 4.1.1 "In which context?"

The most voted proposition was "Translating" with 10 votes (55.6%). Then, we have proof-reading with 7 votes (38.9%) and coding with 5 votes (27.8%). Next, we have UX Writing with 3 votes and architecturing information with 2 votes.

At last, with one vote each we have:

- Generating fake data for testing purposes
- To write an intro
- Asking questions on technical topics to better understand them
- Content Writing
- Content research and creation
- Content strategy
- Finding the right word / rephrasing
- Presentations plans and names suggestions

We then asked how often they were using text generators on a scale going from 1 (Occasionally) to 4 (Very Frequently).

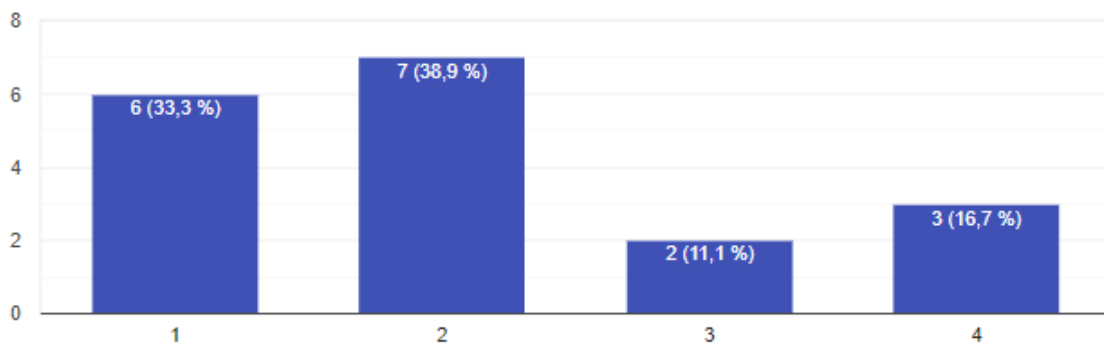


Figure 4.1.2 "How often?"

6 respondents (33.3%) answered that they used text generators only occasionally and 7 respondents (38.9%) that they use them slightly more often. Then 2 respondents (11.1%) answered that they use text generators frequently and 3 respondents (16.7%) use them very frequently.

We asked the respondents what kind of requests they make when using text generators (see [Appendix A](#)). This was an open-ended question that allowed them to give us more information on how they use text generators. In the table below, you can see the most relevant answers.

Requests	Occurrences
Rewrite content, rephrasing, proofreading	6
Write regular expressions	1
Know more about a subject	1
Translate content	3
Write introductions, titles or complete sentences	3
Explain lines of code	1
Other types of requests	5

Figure 4.1.3 "What kind of requests have you made?"

Then, we wanted to know if the respondents were satisfied by AI generated content.

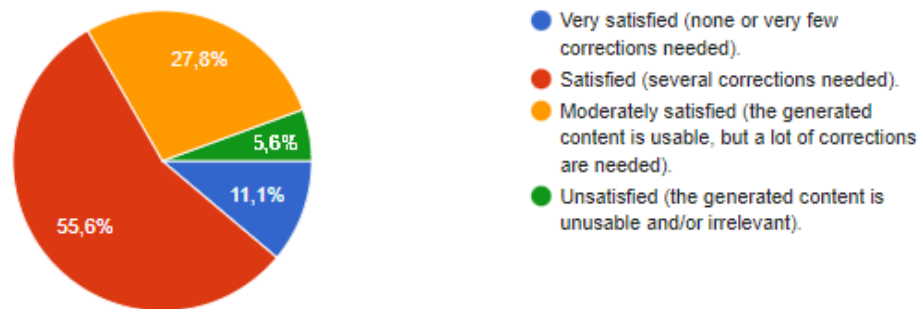


Figure 4.1.4 "Based on your experience, how satisfied are you by AI generated content?"

2 respondents (11.1%) answered that they were very satisfied by the content generated by AI and 10 respondents (55.6%) answered that they were satisfied. Finally, 5 respondents (27.8%) were only moderately satisfied by AI generated content and 1 respondent (5.6%) was unsatisfied by his experience with AI generated content.

Then, we asked them if they would keep using text generators.

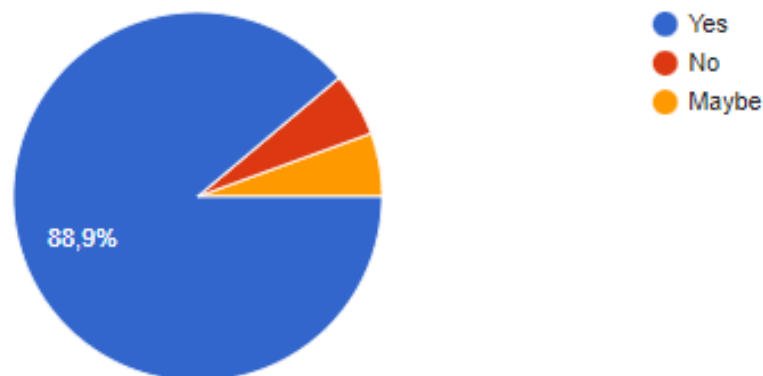


Figure 4.1.5 "Will you keep using text generators?"

16 respondents (88.9%) answered that they will keep using text generators. 1 respondent (5.6%) answered that he may keep using it and another respondent (5.6%) answered that he will not keep using text generators.

Then, we wanted to know why the 2 respondents may not keep using text generators. This was an open-ended question so that they could give us their opinion.

One said text generators are "too approximative" and the other said "I translate mostly in the field of video games, which contains a lot of dialogues

and sometimes jokes or puns. I think that AI is not yet efficient enough to give a satisfactory result in such kind of "organic" content".

For Respondents Who Had Never Used Text Generators

We asked the 28 respondents who answered they had never used a text generator in a professional context the reason for not using it. Among the 28 answers we received (see [Appendix B](#)), 3 reasons stood out.

Reasons for not using a text generator	Number of respondents	Proportion in %
Do not need text generators	9/28	32.2%
Text generators do not meet the respondents requirements in terms of documentation (not specific enough)	7/28	25%
Mistrust of text generators related to data collection, companies NDA or sensible information	6/28	21.4%
Other reasons	6/28	21.4%

Figure 4.2.1 "Why do you not use text generators?"

We then asked those 28 respondents whether they were considering using text generators within a year or not.

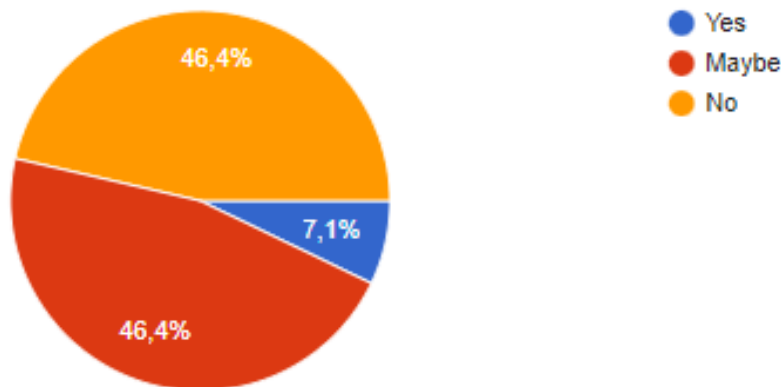


Figure 4.2.2 "Are you considering using text generators within a year?"

2 respondents (7.1%) answered that they are considering using a text generator within a year. 13 respondents (46.4%) answered that they may use text generators within a year. Finally, 13 respondents (46.4%) answered that they were not considering using a text generator within a year.

Discussion

For the purpose of our research, we will now focus on the answers from technical communicators, and in particular technical writers who represented most of the respondents (47.8%).

- **What Are the Benefits of Using a Text Generator for Technical Communicators?**
- **What Kind of Tasks Can Technical Communicators Do?**

Proofreading

Proofreading is one of the most important tasks in technical writing. As a matter of fact, technical writers spend a lot of their time reviewing their documentation. To simplify this task, several respondents of our survey said that they use text generators to check grammar and sentence formation.

ChatGPT, for instance, can create content with good grammar and formatting because it has a wide variety of textual data. So, it is also capable of identifying mistakes and correcting them.

There are also other AI tools such as Grammarly which checks grammar and corrects it. These tools can help to identify mistakes more easily and also save technical writers time.

Rewrite and restructure sentences

In addition to proofreading, text generators can help rewrite and restructure sentences to make them more concise. As we know, technical writers have to write concise information. To do so, they might spend a lot of time trying to find the right words and reformulating sentences numerous times.

Text generators are good at restructuring content. With ChatGPT for instance, you just have to say if you want shorter sentences or if you want to add a particular word in that sentence, etc. When asked what kind of requests do our respondents make when using text generators, a good part

of them said that they use it to restructure and reformulate information. These respondents seem satisfied with the tools' efficiency.

Reduces time and improves efficiency

Text generators can generate content in seconds while it can take several hours for humans.

Technical writers are often asked to write a significant amount of content for their manuals. These tools can help technical writers to understand a complex subject to be able to write documentation more easily. They can also ask them to create content based on a title, or some information. All of these, improve efficiency and help professionals to complete tasks in a much shorter time span.

Translate content

One of the other tasks technical writers have to deal with is to translate content and documentation. Translation tools have been around for a few years and have progressively been used in translation tasks.

In our survey, when we asked in which context respondents have used text generators, the most voted task was translation.

These tools have been getting better over the years, especially with the arrival of AI. However, the translation is not always accurate, it still needs to be verified and corrected by natives.

Coding

Text generators are also able to code in different languages. Currently, text generators seem to be great assistants for people that need to code without necessarily being professional developers. The requests made by such people might be the zone where text generators are the most efficient. Indeed, the level of complexity of a coding request made by a technical communicator has very low chance to be as complex as the requests a professional developer would submit.

The arrival of this tool on the market has caused quite a stir in the developer community, as it has everywhere else. Many people have wanted to test this tool in their developing work, and have shared their experiences on the Internet (Scott, 2023) There is no doubt that the tool is revolutionizing the world of programming. It remains to be seen whether the use of text generators has already become commonplace in the programming world.

It will be interesting to monitor as time goes by, how the proportion of professionals using text generators for development purposes will evolve. In our survey - of which the respondents are mostly technical writers - among the 18 respondents who answered they used text generators, coding was the third most voted answer for the question: "In which context do you use text generators?". The respondents seem to use it to understand lines of code, to do simple programs or to get feedback.

Content writing

What has made ChatGPT so famous is its ability to quickly write clear text in an elegant style.

In our survey, we found that some respondents had used text generators to write content, including introductions - often the most laborious part of a text.

Text generators content is based on a mixture of licensed data, data created by human trainers and publicly available data. They offer an economical, fast and seemingly qualitative solution to people who need help to write content, for example finding a catchy phrase for an introduction as one respondent explained. However, it is worth noting that text generators like ChatGPT are based on existing databases which can be useful for generating ideas and content. But it can also create a reliance on AI tools and lead to a lack of creativity and critical thinking skills.

- **What Kind of Obstacles Can Technical Communicators Face When Using Text Generators?**
- **What Are the Limitations of Text Generators?**

Frequently unavailable

In daily language, many people humanize AI text generators in view of their seemingly precise, clear and impressive results. It is true that we sometimes manage to make this artificial intelligence very real. However, very popular text generators such as ChatGPT often remind us that they are only a digital tool, despite their many assets. Indeed, during the course of the day, it is not uncommon to find this tool unavailable due to overload.

This is a great exhibit of these tools' limitations, reminding professionals who need to deliver concrete, fast and effective results that they cannot afford to be totally dependent on it and that they will not get replaced by it.

Lack of precision

ChatGPT can also surprise us with the accuracy or otherwise of its results.

Many professionals are sometimes surprised by the accuracy of the results provided by ChatGPT. As we saw earlier, these are based on web databases which, although very large, are limited.

This aspect of the tool is not always helpful to the technical communicator. Indeed, the technical communicator often has access to internal company information that is confidential, or sometimes too complicated to be revealed to the general public. It is this information that makes the technical

communicator a specialist in his or her field, and makes him or her unique and indispensable to the company.

The simple lack of access to internal company information makes ChatGPT a tool that lacks precision in certain areas. We can therefore conclude this subsection by saying that ChatGPT, while a very useful popularization tool, cannot help the technical communicator in highly technical subjects, let alone replace his or her brain.

Sensitive information

An obstacle that technical communicators must face when using AI text generators in a professional context comes when they have to deal with sensitive or classified pieces of information. Indeed, the proprietary information they handle, ranging from detailed schematics to advanced weapon systems, is tightly protected under NDAs and strict security clearances.

"It is not unheard of for ace programmers to create grand incomprehensible systems that run whole companies, systems they can personally play like a piano, and then blackmail their Arms." (Nelson, 1974)

That quotation, from a 1974 research article about the consequences of computers on people's day-to-day and professional lives shows that when computers started to emerge, an initial mistrust could be felt. That mistrust ended up being sane as it forced companies to find safe ways to use computers. Right now these safe ways were not found yet according to our respondents.

Our survey has highlighted a severe distrust towards text generators, related to where and how their requests and answers will be processed. As a matter of fact, among the 28 respondents who answered that they were not using an AI text generator, 6 of them wrote a paragraph about their mistrust of AI text generators. That is why for this question we chose to let people write what was in their mind instead of giving them boxes to check. If such a high proportion of respondents, without being biased by checkboxes, give the same answer, it will highlight an issue.

Apply norms or a style guide

In the field of technical communication, style guides, and norms are paramount. Unfortunately, it seems like AI text generators face challenges to achieve perfect adherence to them. Technical writers ensure consistent style in documentation, unlike ChatGPT, which may generate varied styles in its responses.

For example, ChatGPT will not be able to find any pieces of information about the MAT 10000 norm/style guide, widely used in the defense sector. That means that it will not be able to proofread, rewrite or restructure

content following that norm. That lack of knowledge from AI text generators may be explained by the fact that the content these norms relate to is generally classified. Indeed, as an AI learns thanks to people's requests, the distrust of AI text generators that our survey has revealed means that people will not do such requests to an AI, and as a result, the AI will not learn.

Another argument is that a clear style guide will make it easier for technical communicators to produce content and our survey has shown that one of the main reasons for our respondents to not use AI text generators was that they simply did not need it.

Is ChatGPT a reliable tool?

Our survey has brought to light that ChatGPT is by far the most popular AI text generator as it received 44 votes.

However, ChatGPT has one weakness that it explains like this: "As an AI language model, my responses are based on information available up until September 2021, and I don't have access to real-time data or events that occurred after that date."

This information can be compared or contrasted with our survey findings. Indeed, one of the most popular justifications for not using text generators was its lack of precision and specific knowledge on various subjects.

As time progresses, the less reliable and useful this text generator will be, especially in a rapidly evolving sector like Technology. AI text generator's efficiency and usefulness relies on its data and if the data is outdated, it becomes obsolete.

Conclusion

Text generators are not just tools for "computer nerds" that require skills to be used. In fact, they are incredibly versatile and accessible. Anyone can submit a request to any AI text generator, receive an answer and then "chat" with that AI to enhance the generated content.

Thanks to the results of our survey, we believe that technical communicators can use AI text generators for various tasks. It can help them gain more time and improve their efficiency. However, for the moment these tools have limitations which can lead to outdated or inconsistent content. If technology keeps evolving, these text generators might be improved and could then be used by technical communicators from all fields. Perhaps in the future, the issue of confidentiality will be addressed, allowing professionals to use them with greater peace of mind.

The impact and the future of AI text generators will mostly depend on where that new technology is located on The Sigmoid Curve of Progress. (Fowle, 2023)

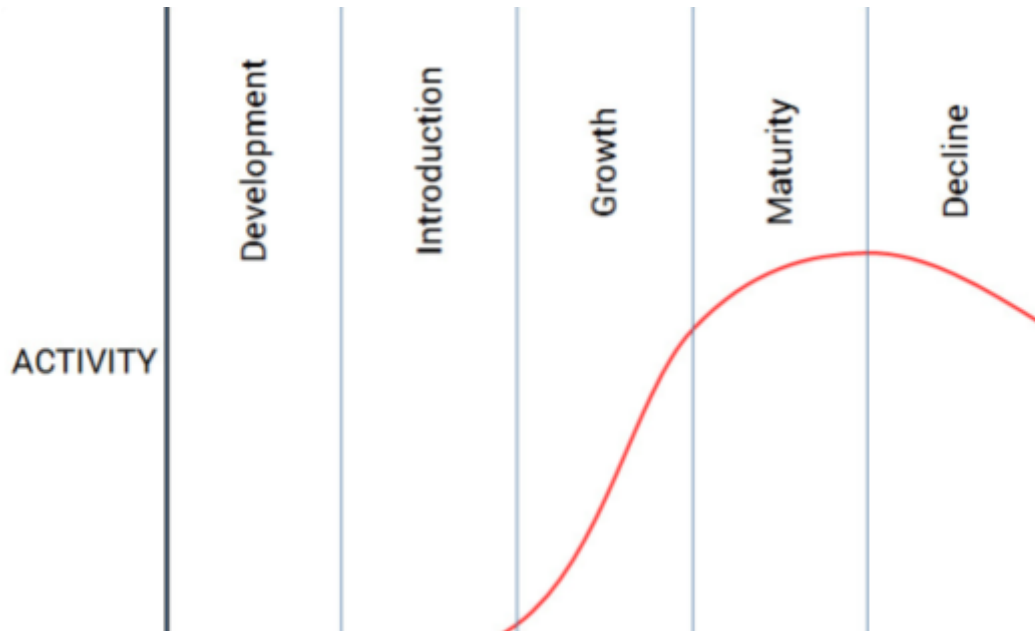


Figure 5. Sigmoid curve of progress. Adapted from "The Sigmoid Curve: A Model for Constant Business Growth and Innovation" by Henry S. Cheang, 2015, Dec 3, LinkedIn.

In other words, how much potential is left to exploit within AI text generators. It is safe to say that we are currently in the growth part of the curve, AI text generators are not just barely working prototypes anymore, they have reached the stage of public release. Nonetheless, only the engineers behind these text generators can estimate where in the exponential growth part of that curve are text generators like Chat-GPT, Notion AI and the others. If these text generators are currently at the top of the AI technology growth state, then technical communicators will have good "assistants" that will make their jobs easier but AI text generators will still require humans to work efficiently. If they are at the middle of the curve, then the upcoming AI text generators will be even better tools for technical communicators, but they will also need humans to work efficiently. However, if AI is only at the bottom of its growth potential, then the change it may create may be unimaginable, something even more revolutionary than the smartphones.

Appendices:

Appendix A “What kind of requests have you made?”

- “I don't do requests, I use the different features that help rewrite the content I initially write. It helps rephrase sentences and make them shorter. I sometimes ask to expand the content to find new user needs or user goals to highlight for marketing copy.”
- “Simple programs, proofreading, and rewording mostly (“Rewrite this in the active voice...”)”
- “How to write a regular expression to replace something everywhere in the doc. It didn't find the correct answer but it helped me get à starter regex that I could customize to meet my needs.”
- “Tell me what I need to know on this topic etc.”
- “Give me a list of renowned specialists in the field of “ABC”. Rephrase the sentence “ABC” while focusing on “DEF””.
- “I’m often looking for the translation of technical words or sometimes complete sentences.”
- “To check grammar.”
- “Translations of short sentences in order to get a rough idea of the appropriate formulation, for inspiration only”.

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- “I sometimes struggle to find catchy intros for my articles. So I used Chat GPT around 2-3 times to help me find a way to introduce the subject.”
- “Summary of strategies for assessing and improving content quality, making impactful strategy decisions.”
- “Having the software suggest me other ways to phrase a sentence, concatenate two sentences into one, and divide one sentence into two.”
- “I often request to explain lines of codes in languages I'm not familiar with.”
- “Sometimes I ask it to read my code and to provide feedback.”
- “Give me an alternative phrasing for the following : XXX”.
- “What could be a short title for the following article?”
- “What is the word for naming functions that can be applied to arguments of different types?”
- “What is a company's tone of voice? How do you define a company's tone of voice?”
- “Requests for descriptions of information management jobs.”
- “Translation”.

Appendix B “Why do you not use text generators?”

- “I don't know where the data is sent and what is done with it, so I'd rather not send it. It's probably written somewhere where the data goes, but I shouldn't have to dig online just to find that information.”
- “I also don't like giving away personal information in order to use ChatGPT, for example. I believe the fact it requires my name and phone number is not right -- even if it's just “only used to verify [my] identity for security purposes.”
- “I hadn't even thought of that for the technical doc. But I prefer to think about the content myself or reuse existing paragraphs to ensure continuity in the existing doc.”
- “I don't need to but I use image generators.”
- “I like to write. I am sure it is a great help in writing but I don't want to delegate a task I like doing.”

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- “Corporate standards and style guides already do most of the job. Using a text generator would not be very helpful.”
- “Contract samples.”
- “I don't think such tools are reliable enough to use in a professional context.”
- “Forbidden by my company for security reasons, but mostly because I have absolutely 0 interest in learning how to use this? I really don't understand the hype at all...”
- “I don't see the point.”
- “The resources on which my writing is based are private. They are not found on the Internet.”
- “Lacks specific knowledge about the software I work on.”
- “We are currently testing it in my company but it does not meet our requirements yet in terms of documentation (not specific enough, sometimes confused).”
- “I had never heard of them before, but it seems interesting enough to investigate and maybe implement in the company I currently work for (they are all about AI, nowadays).”
- “I haven't needed it yet.”
- “I have not felt the need to do it yet. I feel like in the technical communication world, we are already trained at school and in the company to communicate and convey information properly. I understand why people use text generators but I feel like we can do without them.”
- “I don't need them.”
- “The text would be imprecise to document software.”
- “I haven't had the need for it.”
- “I believe a human understanding of the context is always useful when writing technical texts.”
- “I tested chatGPT in a private way, and I saw a lot of weaknesses for a professional level, for example python coding, but not really for text generation per se.”

- “In a professional context I don't use it, firstly because I'm concerned about privacy issues, and also because my needs are highly specific and it couldn't fulfill them.”
- “I don't generate text, I translate, I already used an AI translator though in a professional context.”
- “No real application so far as the content I write is extremely context dependent.”
- “Not allowed by our Security team due to confidentiality/legal reasons.”
- “No real need for systems engineers.”
- “I haven't felt the need so far.”
- “I don't have the opportunity to use them in my professional life.”
- “I don't need to use it for my job.”
- “Data protection issues.”

References

Nelson, T. H. (1974). *Computer Lib/Dream Machines*. Microsoft Press.

Kingson, S. (2023, June 30). *How Technical Writers can Utilize ChatGPT?* Document360 Blog. Retrieved from <https://document360.com/blog/chatgpt-for-technical-writing/>

Scott, T. (2023, February 13). *Fix Gmail Labels/Threads*. Retrieved from <https://www.tomscott.com/fix-gmail-labels-threads/>

Fowle, H. (2023, June 23). *The sigmoid curve and AI: where are we?* Electronicspecifier.com. Retrieved from <https://www.electronicspecifier.com/products/artificial-intelligence/the-sigmoid-curve-and-ai-where-are-we>

Taylor, R. (2023, April 23). *Artificial Intelligence and The Future of Technical Writing*. Retrieved from <https://heretto.com/artificial-intelligence-and-the-future-of-technical-writing/>

Mason M. (2023, April 25). *Using ChatGPT as a technical writing assistant* <https://martinfowler.com/articles/2023-chatgpt-tech-writing.html>

Fowle, H. (2023, June 23). The sigmoid curve and AI: where are we? Electronicspecifier.com.

Henry S. Cheang, M. (2015, December 3). *The sigmoid curve: A model for constant business growth and Innovation.* LinkedIn.
<https://www.linkedin.com/pulse/sigmoid-curve-model-constant-business-growth-innovation-mba>

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