



TTS eGuide to ChatGPT

An Introduction

February, 2023

Foreword

This eGuide provides a brief introduction to ChatGPT. It is designed to help you decide:

1. Is it likely to impact your business? If so, how?
2. If you do not see any immediate impact, nonetheless is this something that you should be following?

This eGuide is aimed at a non-technical readership and therefore any technical descriptions will be kept to an absolute minimum. Although ChatGPT is taking centre spot in this eGuide, it will be seen that there are many competitors on the scene, not least Google.

What is ChatGPT?

ChatGPT¹ is a **Chatbot**² that lets users ask questions and get human-like responses; rather than merely serving up a list of links. Chatbots have been of interest for decades. However, most of them are still relatively primitive and are only capable of answering rudimentary questions on help desk pages.

ChatGPT on the other hand can carry on a conversation through multiple queries to produce human-like text and conversation with its users. For example, want to go somewhere off the beaten track in France, that is safe, comfortable and child-friendly? Google will produce a list of websites, which you then have to skim and read. Whereas ChatGPT generates a list of relevant options in a travel guide format – which you can further refine with further questions. See Appendix Four – ChatGPT vs Other ChatBots – in its own words

This dialogue format makes it possible for ChatGPT to not only answer follow up questions but also admit its mistakes, challenge incorrect premises, and reject inappropriate requests. The quality of texts it generates makes can be so good that it is difficult to know that it was not written by a human. Try asking it to draft letters, presentations and short discussion papers, and you will see the advances that have been made.

Why is ChatGPT making the headlines?

Five days after its launch in November, 2022 ChatGPT had 1 million users and by mid-February, 2023 it was estimated to have over 100 million users. This makes ChatGPT one of the fastest consumer-product launches in history.

ChatGPT is forecast to be disruptive in two areas:

1. It has the potential to boost productivity across a wide range of industries and occupations and so transform economies in the years ahead³.

¹ GPT is the acronym for Generative Pretrained Transformer.

² A chatbot is a computer program that uses [artificial intelligence](#) (AI) and [natural language processing](#) (NLP) to understand customer questions and automate responses to them, simulating human conversation.

³ Its impact is being compared to those made by those made by steam engines, electricity and computing.

2. There is the potential to replace Google as the search engine of choice⁴ and therefore ChatGPT represents a direct threat to Google's advertising base⁵ and as such its very existence.

ChatGPT and AI Applications

See Appendix One – Examples of questions that ChatGPT answers

Advantages of using ChatGPT include:

- Its ability to generate personalised and engaging content for customers⁶.
- Its ability to handle large amounts of data and perform tasks such as customer service and lead generation automatically.
- It can be integrated into various platforms such as websites, messaging apps, and virtual assistants to improve customer engagement.
- The translation of English into other languages.

As well as seeking existing information, AI users can generate original content e.g.:

- Computer Code.
- Images.
- [Music](#).
- Spreadsheets.
- Text.
- Video.

It can write outputs similar to commercial AI copywriters. It can also help content creators or technical writers produce an outline. Furthermore, the chatbot can summarise and explain large bodies of text.

Chatbots have been so successful in the area of content generation that:

- Many schools have banned the use of Chatbots – and tools are available to test for their use (as well as general plagiarism. See Appendix Three – Plagiarism Detection Tools).
- They are used to create and spread misinformation (especially in social media) – by conspiracy theorists, crackpots, internet trolls as well as even more nefarious actors.

⁴ Google has 90% of online searches (outside of China).

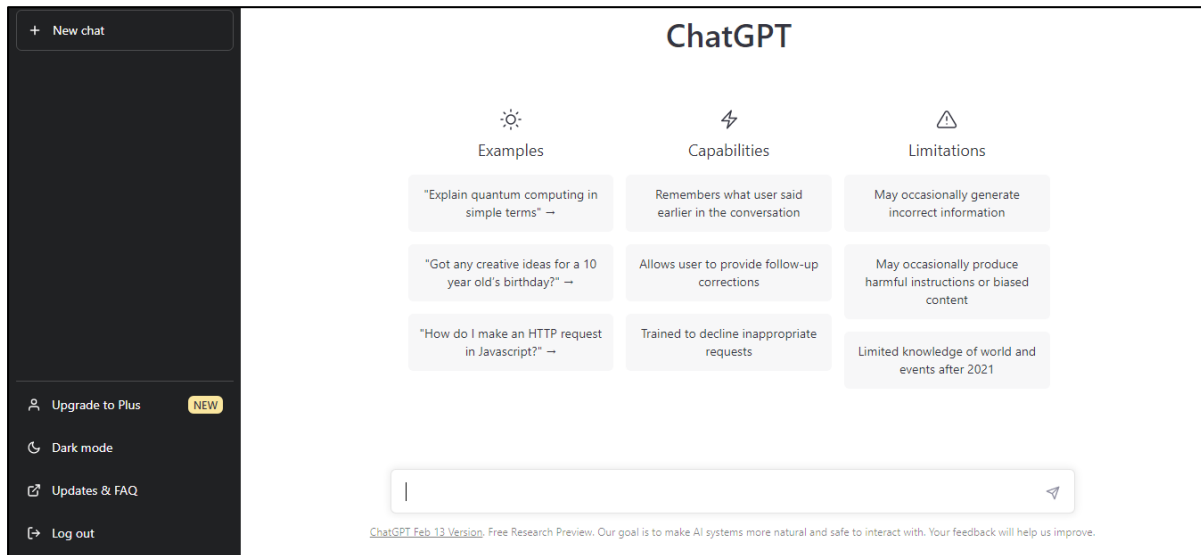
⁵ In 2022, Google's ad revenue amounted to 224.47 billion U.S. dollars. The company generates advertising revenue through its Google Ads platform, which enables advertisers to display ads, product listings and service offerings across Google's extensive ad network (properties, partner sites, and apps) to web users.

⁶ e.g. Travel firms, including booking.com, are considering deploying chatbots.

Using ChatGPT

In order to use ChatGPT, first users need [to sign up](#).

After signing up, the following dashboard screen appears:



You can then start interacting with the ChatGPT bot as shown in the box provided.

You can modify the query and pose it again and again until you are satisfied with the answer.

Subscription Models

ChatGPT [via the web](#) is free to use, however a new premium service @ \$20 per month is now offered. There is also an [API service](#), on a pay by use basis.

ChatGPT Competitors

There is an epic race for AI supremacy. The result of that race will determine how quickly the age of AI will dawn for computer users everywhere - and who will dominate it.

The biggest battle is between Microsoft and Alphabet – for other players in the market see Appendix Two – ChatGPT Competitors. Both are racing ahead with both the development of AI to be used for online searches but also to embed into existing products and services.

However, it is still far too early to indicate a winner – and in any case the potential market is estimated to be so vast that it is probably more accurate to be thinking in terms of winners and losers in a myriad of market niches.

Microsoft

In addition to their \$10 billion investment in Open.AI, Microsoft is also deploying – or planning to deploy - ChatGPT technology in:

- [GitHub's Co-pilot](#) product – aimed at accelerating the work rate of software developers.
- Its Office products to facilitate the creation of PowerPoint presentations, Excel spreadsheets and content for word documents

- Edge and Bing search results.

Google

Google has also announced that it will be deploying its own multi-format AI tool in:

- Its own multi-format Artificial Intelligence tool, [Google Bard](#).
- [DeepMind](#)'s chatbot [Sparrow](#).

Google also uses AI in its YouTube and Google Translate services.

Market Features

The reasons why Google and Microsoft are currently the front runners is because they have:

- The deep pockets required to build, launch and support the development of Chat + AI.
- They are already ahead of most with their existing technology.
- They have the necessary computing power.
- They already have search engines which are widely used (although Google has c. 90% of the market and Bing just 5%) – which provide not just a large user base but also the databases and dynamic feedback to support the AI development (Deep Learning).

Advertising Revenue & Operating Costs

As indicated above, Google's advertising revenue comes from displays ads related to the search's keywords alongside the results.

Google's costs for each search carried out is estimated at less than 0.2 cents. It is estimated that every 10% shift of Google searches that move to AI will cost Google between \$700 million and \$1.6 billion⁷ in extra operating costs.

It should be borne in mind that "informational" searches e.g. What is the capital of Italy? Are not searches that really interest advertisers. Google estimates that 80% of searches fall into this category.

Another hit to revenues could come from the fact that there is less space to promote advertisers in the results of a Chatbot search than from a standard Google search. Therefore, at some stage, to maintain revenues, individual advertising rates may have to increase.

Caveats

Chatbots still need to be developed⁸ to at least limit the concerns listed here:

- Chatbots have no sense of what is true or false. They simply reflect what they find on the internet. Therefore, it is important to fact check.

⁷ A ChatBot query costs c. 2 cents – 7x more than a Google search.

⁸ OpenAI CEO and co-founder Sam Altman underlined this in a tweet in December 2022. "ChatGPT is incredibly limited, but good enough at some things to create a misleading impression of greatness. it's a mistake to be relying on it for anything important right now. it's a preview of progress; we have lots of work to do on robustness and truthfulness," he wrote.

- Chatbots can suffer from “hallucinations”. They can fill in any blanks with content they simply create.
- ChatGPT does not provide references or citations for the information it retrieves.
- Chatbots have no moral compass. Unless the appropriate controls are in place, they will explain how to build bombs just as happily as how to unblock a drain.
- For the Chatbot, if the information is not available on the Internet, or within the time period search specified, it simply does not exist.
- Researchers and creatives are worried about the potential for copyright infringement.
- The question of whether it is ethical to use a Chatbot as a substitute for services that require human interactions such as customer service representation and even therapeutic counselling.
- Limited understanding of the context and intent of the user can lead to inaccurate or irrelevant responses.
- There is the potential for bias in the data and algorithms used to train the model.
- They can be expensive to implement and maintain.
- Chatbots can be manipulated to evade the policies and restrictions that have been set.

Wider Considerations

Given the ease of creating profiles and convincing but misleading information, it is increasingly important to verify information sourced online:

- The identity⁹ of the author of any content.
- The Information itself¹⁰.

Political, Strategic Considerations

The world is drifting into two technological camps:

1. The Authoritarian (most significantly, China but also Iran, North Korea and Russia); and
2. The (relatively) Liberal West.

Both have significant reasons for developing AI – the first for controlling the population, the second for commercial reasons.

In both cases AI can be used as weapons in their mutual struggle. AI can be used to:

1. Misinform and disrupt the democracies and at the same time control their own populations
2. To boost productivity of the West which can then use this economic advantage to counteract such interference¹¹.

If you think this is far-fetched, you should note that:

- China already uses facial recognition technology to monitor and control its minorities and other dissidents.
- Facebook and Google are banned in China.

⁹ See TTS’s [eGuide to eIDAS](#).

¹⁰ Make sure that you fact check anything that you are going to rely on.

¹¹ However, even in the Democratic West the temptation by politicians to misuse this technology in the manner of the Autocracies is not to be underestimated. Indeed, the potential for large corporations to misuse the technology will test politicians’ ability and will to hold companies to account.

- Various western governments are banning the use of Chinese technology in ever wider areas of their economies.
- China, Russia, Iran and North Korea have been accused by the West of interfering in elections.
- Reporting of the war in Ukraine in Russia and elsewhere is so different that they would appear to be on different planets.
- The use of the internet in China is very heavily monitored and restricted.
- The West has already imposed embargoes on selling technology to China, Iran, North Korea and Russia.
- The West has imposed restrictions on buying Chinese technology for use in critical infrastructure (out of fears that there could be trojan horses feeding back information to the Chinese Communist Party).

Conclusions

The basic technology and approach are not new. Siri, Apple's virtual assistant was released as far back as 2011. The risks of propagating errors or misinformation are serious and should not be underestimated. However, ChatGPT already represents a significant improvement on existing Artificial Intelligence ("AI") search technology – but more needs to be done (and given the investments being made, the probability is that these problems will be overcome).

To see whether ChatGPT could be relevant to your activities, we would suggest that you [try out ChatGPT](#) and judge the results for yourself.

Whether Google or Microsoft win the race to dominate the world of AI searches, is still to be seen – and there are many other smaller competitors snapping at their heels (and these are likely to be targets for takeovers by the large tech companies who want to take on Google and Microsoft).

However, the issue is not really who provides the best online search experience. The real issues concern the ubiquitous deployment of AI and the impacts that this would have on all of us in our work and personal lives.

Nonetheless, It should be said that wide spread adoption and implementation of new technology takes time. There are three distinct phases to be completed:

1. Refinement and improvement of the technology beyond the beta stage (The training process is ongoing, and the abilities of these AI tools are constantly improving through widespread use and feedback.)
2. Users have to become comfortable with the new technology and understand how it can improve productivity.
3. The new technology then has to be deployed and integrated into existing processes; with all the disruption that this may entail.

All that we can say is that we believe we are at some stage in Phase One and that a few niche players have begun Phase Two. However, we have no idea how long these Phases will take – especially when Phase Three will begin. Whatever happens, whenever it happens, it's going to be an interesting ride.

N.B. Disclaimer: TradeTech Solutions does not offer any advice or recommendations as to what actions you should take in response to ChatGPT or any other AI service; nor do we predict what will happen in this area. This eGuide simply serves as an introduction to ChatGPT, with a suggestion that you follow developments and regularly review how these are likely to affect you personally.

Appendix One – Examples of questions that ChatGPT answers

ChatGPT can be used to generate (For more information [see](#)):

Chat & FAQ Assistance

Chat	Open ended conversation with an AI assistant.
Factual answering	Guide the model towards factual answering by showing it how to respond to questions that fall outside its knowledge base.
Friend chat	Emulate a text message conversation.
Interview questions	Create interview questions.
Marv the sarcastic chat bot	Marv is a factual chatbot that is also sarcastic.
Q&A	Answer questions based on existing knowledge.

Drafting Assistance

Ad from product description	Turn a product description into ad copy.
Analogy maker	Create analogies. Modified from a community prompt to require fewer examples.
Create study notes	Provide a topic and get study notes.
English to other languages	Translates English text into French, Spanish and Japanese.
Essay outline	Generate an outline for a research topic.
Grammar correction	Corrects sentences into standard English.
Keywords	Extract keywords from a block of text.
Micro horror story creator	Creates two to three sentence short horror stories from a topic input.
Notes to summary	Turn meeting notes into a summary.
Product name generator	Create product names from examples words. Influenced by a community prompt.
Restaurant review creator	Turn a few words into a restaurant review.
Science fiction book list maker	Create a list of items for a given topic.
Summarize for a 2nd grader	Translates difficult text into simpler concepts.
Third-person converter	Converts first-person POV to the third-person. This is modified from a community prompt to use fewer examples.
TL;DR summarization	Summarize text by adding a 'tl;dr:' to the end of a text passage. It shows that the API understands how to perform a number of tasks with no instructions.
Turn by turn directions	Convert natural language to turn-by-turn directions.

Technical

Explain code	Explain a complicated piece of code.
JavaScript helper chatbot	Message-style bot that answers JavaScript questions
JavaScript one line function	Turn a JavaScript function into a one liner.

JavaScript to Python

Convert simple JavaScript expressions into Python.

ML/AI language model tutor

Bot that answers questions about language models

Natural language to OpenAI API

Create code to call to the OpenAI API using a natural language instruction.

Natural language to Stripe API

Create code to call the Stripe API using natural language.

Python bug fixer

Find and fix bugs in source code.

Python to natural language

Explain a piece of Python code in human understandable language.

SQL request

Create simple SQL queries.

SQL translate

Translate natural language to SQL queries.

Text to command

Translate text into programmatic commands.

Translate programming languages

Translate from one programming language to another.

Write a Python docstring

An example of how to create a docstring for a given Python function. We specify the Python version, paste in the code, and then ask within a comment for a docstring, and give a characteristic beginning of a docstring (""").

Miscellaneous

Advanced tweet classifier

Advanced sentiment detection for a piece of text.

Airport code extractor

Extract airport codes from text.

Calculate Time Complexity

Find the time complexity of a function.

Mood to color

Turn a text description into a color.

Movie to Emoji

Convert movie titles into emoji.

Recipe creator (eat at your own risk)

Create a recipe from a list of ingredients.

VR fitness idea generator

Create ideas for fitness and virtual reality games.

Productivity Tools

Classification

Classify items into categories via example.

Extract contact information

Extract contact information from a block of text.

Parse unstructured data

Create tables from long form text

Spreadsheet creator

Create spreadsheets of various kinds of data. It's a long prompt but very versatile. Output can be copy and pasted into a text file and saved as a .csv with pipe separators.

Tweet classifier

Basic sentiment detection for a piece of text.

Appendix Two – ChatGPT Competitors

Amazon	One of the first voice activated Artificial Intelligence services. See Alexa .
Anthropic	Anthropic is an AI safety and research company that's working to build reliable, interpretable, and steerable AI systems. Large, general systems of today can have significant benefits, but can also be unpredictable, unreliable, and opaque: our goal is to make progress on these issues. For now, we're primarily focused on research towards these goals; down the road, we foresee many opportunities for our work to create value commercially and for public benefit.
Apple:	Siri , together with Alexa, was one of the first voice activated Artificial Intelligence services.
Baidu	The main Chinese search engine will launch its AI BOT in March.
Beijing Academy of Artificial Intelligence	(BAAI) is said to have built the world's biggest natural language model. The Chinese labs have a big lead in sub-disciplines – analysing images (useful for population control!).
c3.ai	Has brought out a chatbot to help companies search their in-house databases.
Character	Lets you create Characters and talk to them.
Chatsonic	The crucial difference between ChatGPT and Chatsonic is that the latter can access the internet.
Chinchilla	Chinchilla is a DeepMind project. It gives answers in just a few seconds. As such it is faster than most other AI chatbots – but is currently not available to the public.
Jasper Chat	Like ChatGPT, Jasper Chat is also based on the GPT 3.5 platform and counts OpenAI as its partner. The company says that the chatbot has been trained in 29 languages and learned information available till mid-2021.
LaMDA	LaMDA is unlike other ChatGPT alternatives. It is a model that has revolutionised Natural Language Processing (NLP). It interacts through natural language input and responds in a highly contextual manner, which is both sophisticated and logical.

[Neeva](#)

Created to give you a choice in how you search and experience the internet.

[Perplexity AI](#)

Trained on OpenAI's API, the chatbot cites sources from where it draws the information that the user seeks.

[Stability AI](#)

Has assembled a consortium of small firms, universities and non-profits to pool their resources creating developer communities with over 20,000 members who are building AI for the future.

[You.com](#)

Offers an AI-powered search bot "The AI Search Engine You Control".

Other Major Technology Companies that use Artificial Intelligence, but currently for internal purposes only:

[Meta](#)

Facebook, Instagram currently use AI for internal purposes only.

[TikTok](#)

TikTok's parent company, ByteDance, has invested heavily in Artificial Intelligence and Machine Learning – but like Meta, for internal purposes – at least for the time being.

Appendix Three – Plagiarism Detection Tools

Examples of plagiarism detection tools are:

- [Dupli Checker](#)
- [Copyleaks](#)
- [PaperRater](#)
- [Plagiarisma](#)
- [Plagiarisma Checker](#)
- [Plagium](#)
- [PlagScan](#)
- [PlagTracker](#)
- [Quetext](#)
- [Plagiarismhunt](#)

Appendix Four – ChatGPT vs Other ChatBots – in its own words

Question to ChatGPT: “How would you describe the improvements in your service with respect to other chatbots?”

Answer: As an AI language model, I am designed to provide informative, accurate, and helpful responses to a wide variety of questions. Here are some ways in which I believe I stand out from other chatbots:

Knowledge: I have been trained on a vast corpus of text data, which includes a wide range of topics and domains. This enables me to provide detailed and comprehensive responses to many different types of questions.

1. **Natural Language Processing:** I use state-of-the-art Natural Language Processing (NLP) techniques to understand the intent behind user queries and generate responses that are contextually relevant and accurate.
2. **Adaptability:** I can adapt to a user's language and style of communication, and I am constantly learning and improving based on user interactions.
3. **Customization:** I can be customized and integrated into a wide range of applications and platforms, which makes me highly versatile and useful for many different use cases.
4. **Consistency:** I provide consistent and reliable responses, which means that users can rely on me to provide accurate information and helpful guidance.

Overall, I believe that my combination of knowledge, NLP, adaptability, customization, and consistency makes me a highly effective and valuable chatbot for a wide range of users and use cases.