

# EXPLORING THE CHANGING AI LANDSCAPE

From Analytical to Generative AI

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While the domain of Generative Artificial Intelligence (AI) has been growing in recent years, ChatGPT accelerated its adoption and broke through as the first “mass” **Generative AI** application. It is important to take notice and put this and other emerging tools in perspective as the implications of the technologies will be far reaching and very fast.

As with the advent of the internet, this new technology will change how we work, consume, communicate, get informed and educated, etc. The rise of Generative AI will have similar seismic consequences on how we live our lives. This time though, the pace of acceleration is so incredible that these tools – which are shocking and awing us now – will seem quaint by the end of the year because their capabilities are increasing exponentially, and they are being embedded in other tools and services far faster than past advances.

To put the pace of adoption in perspective, even in this era of rapid internet adoption, ChatGPT’s embrace has been astounding. For comparison,

it took 3.5 years for Netflix to reach one million users. Since then, it took Facebook 10 months, Spotify five months and Instagram 1.5 months to reach this level. In comparison, ChatGPT reached its first million users in only five days.<sup>1</sup> The recognition of the potential of the tool and a fear of missing out (FOMO) has led a huge number of individuals and companies to begin exploring its potential.

It is our intent to put in perspective the opportunities while recognizing some of the limitations and watchouts for Ipsos and our clients to consider in the exploration and implementation of ChatGPT, LLMs (Large Language Models), even newer multimodal models (text and image like in the newly released GPT-4), and Generative AI more generally. In this regard we will see that while the potential, and use cases, are often new, the evaluative criteria that have been used for other areas of AI, Machine Learning, and analytics in the past will allow teams to get the greatest value out of the tools.

As with past major transformations, there is ample reason to be both excited and concerned. Ipsos is taking advantage of advances possible with this new technology, as well as building on the existing tools by leveraging our knowledge and data to improve the models, and helping our clients navigate the new landscape. Our reason to be is to give people a voice to understand and

shape a better tomorrow, and our role in coming months and years will be more important than ever; as we provide a Total Understanding of how the world is changing, how people decide and act as citizens, consumers, patients, and professionals as well as how they embrace the new technology in these roles.

## GENERATIVE AI AND THE AI LANDSCAPE

There are two main branches in the representation and application of ‘intelligence’ by machines with AI:



• **Analytical AI** has been in use for some time for tasks such as predictive analytics as well as image and speech recognition. For example, we at Ipsos are using it to generate new insights, change how we engage with respondents, and for process automation. In these areas we leverage specific tools like natural language processing (NLP), speech to text transcription, image analytics, etc. in domains ranging from audience measurement to social listening to crisis support.



• **Generative AI** is a more recent extension that can create new things across all media that would have thus far been seen as unique to human intelligence or creativity: text, video, audio, pictures – every digital medium can be powered by Generative AI.

While ChatGPT has recently captured the public imagination in a compelling way, the Generative AI space is getting crowded very quickly, and will improve exponentially in the coming months. OpenAI’s release of the much more powerful GPT-4, Google’s release of Bard, as well as image generation tools such as Dall-E 2, Midjourney, and Craiyon, and even the latest breakthroughs that allow loading and training LLMs on personal machines (i.e. running LLaMA and Alpaca with Dalai, although with limitations on what it can be used for),<sup>2</sup> demonstrate

the breadth and competition that will further accelerate advances going forward.

The size of the models and breadth of the training sets are creating more general tools from the narrow AI we are used to seeing that solve specific problems. The continued advance in this space and the combination of AI algorithms will further the generalizability making them even more ubiquitous across our lives.

## “AI WILL NOT REPLACE YOU – SOMEONE USING AI WILL” – OPPORTUNITIES!

The advent of Generative AI will change the way we work, interact, search for information, and create content. It is a “supercharger” that will augment the output of those that use it well.

If you are a business or marketing leader, it can significantly evolve and improve the way you determine and design your new products and services, and how you market, sell to, service and support your customers. It is also critical that you understand how your customers find your brand or company, and how they interact with you. It is already being leveraged to accelerate the creation of new product concepts, copy and messaging, and advertisements themselves.

If you are an insights professional, Generative AI will help you every step of the way: perform desk research, write proposals,

create hypotheses, understand the market landscape and your place in it, do projective exercises, analyze, summarize, and share knowledge throughout your organization. At Ipsos, we are exploring the use of Generative AI for use cases as diverse as enhancing desk research, questionnaire and discussion guide development, scripting, coding, and data processing, analysis, data summaries, knowledge management, and reporting and identifying meta-analysis themes across projects.

Beyond others who are experimenting with and exploring these tools, Ipsos is additionally improving and building on their core capabilities by augmenting and training on domain and specific data, while also considering the evaluation of the models to address their limitations as well as their great potential.

## LIMITS, RISKS, AND THREATS

While the potential is huge, adequately evaluating these tools in specific use cases is key to getting the most value from them while avoiding significant potential risks. While some of the existential questions on how these tools may change work and society are beyond the scope of this brief point of view, we focus here on practical questions of how to evaluate their utility in practice. Although there are some unique new aspects, the dimensions overlap with how we have evaluated Analytic AI, Machine Learning, analytics, and data in the past. We classify these at Ipsos into the domains of *Truth*, *Beauty*, and *Justice*.<sup>3</sup>

### TRUTH

Given the importance Generative AI promises for learning, research, and production, the accuracy of these tools is of primary importance. Although the tools provide results with authority, they are not always right. While we will not go into detail on how these tools work, it is worth highlighting that they are designed to identify the next word in a sequence based on their training data and sequences of text built to that point.<sup>4</sup> This makes their language incredibly natural, but the content is not necessarily accurate.

Knowing how to ask and sequence questions is important (an element of prompt engineering), but while the tools can be invaluable to accelerate work for subject matter experts who can evaluate the content, it is riskier for learning and emergence. Examples of companies and their products harmed by being erroneously classified based on training data with errors and from sources of opinion (as the models do not

explicitly know the difference), highlight risks for companies and public opinion of generating and propagating misinformation.<sup>5</sup> The latest breakthroughs are democratizing LLMs and allowing more to build their own models. The quality and accuracy of these will absolutely need to be evaluated as they will likely be less transparent than the major players; OpenAI, Microsoft, Google, Meta, etc., and trusted partners become even more important.

*“Never trust anything that can think for itself if you can’t see where it keeps its brain.”* That sound advice, given by Mr. Weasley to his daughter Ginny at the end of “Harry Potter and the Chamber of Secrets”, could well apply to AIs. While based on gigantic and ever-growing data sets, Generative AIs are entirely dependent on the data they were exposed to. A good example is the public version of ChatGPT, which was not exposed to data post 2021. Understanding what the “training data” was, and if there is evaluative criteria, will be fundamental to determine the level of trust we can grant the output of any Generative AI.

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*“The greatest enemy of knowledge is not ignorance, it is the illusion of knowledge”*, Stephen Hawking warned us. Generative AI is not always accurate, consistent across languages or trained for all language tasks.<sup>6</sup> If you have worked with ChatGPT already, you may have noticed how “confidently wrong” it can be. Because of the conversational nature of such applications, and because some often offer one clear, well written, structured response, with little nuance, we would be inclined to trust them. But they are sometimes wrong, for all confidence they convey.

## BEAUTY

When considering beauty in AI models, one focus is on their explainability. While explainability is the most important aspect of this dimension, it is again even more critical for Generative AI. The description of how LLMs build their text is again relevant to understand issues here. If you ask ChatGPT for citations for a ‘fact’ or position it provides, it will readily do so. However, these are also generated word by

word and not necessarily true citations. When Henry Kissinger asked ChatGPT for six sources on ‘Kissinger’s thoughts on technology’, one was an actual title (with the date wrong), but the other five were pure fabrications that were generated to sound like legitimate citations.<sup>7</sup> This is why using LLMs where you have the understanding to confirm the quality of the content yourself and check the references can be invaluable, but for learning new things it should be used more cautiously.

Given the magnitude of the errors found, even the impressive improvement of GPT-4, being 60% less likely to make stuff up, still leaves a lot of room for concern if one does not actively check accuracy and the sources provided.<sup>8</sup> While major LLMs are working to reduce and minimize ‘hallucinations’, where the tools generate responses that go beyond the training data and are factually inaccurate, this is still an area of significant current concern.

*“In God we trust, all others must bring data.”* Generative AI will have to make its sources

readily available. It will be absolutely necessary to see the sources of the data used by an AI to form a response or recommendation.

*“I who wrote this message, am a Certified Human”*. Generative AI is going to allow you to speak to ‘people’ on the internet, via text and video, who will look like human beings but will in fact be avatars.<sup>9</sup> While that has many positive implications, it also means that it will be increasingly hard to know if the person you are talking to is a human being. And while avatars will become more and more “intelligent”, they still will not exist in real life, they won’t vote, they won’t need healthcare, or consume your goods and services. There will be cases where using “synthetic data” will be valuable; in general though, we will need validation to make sure we are speaking to ‘real people’ when we want to.

## JUSTICE

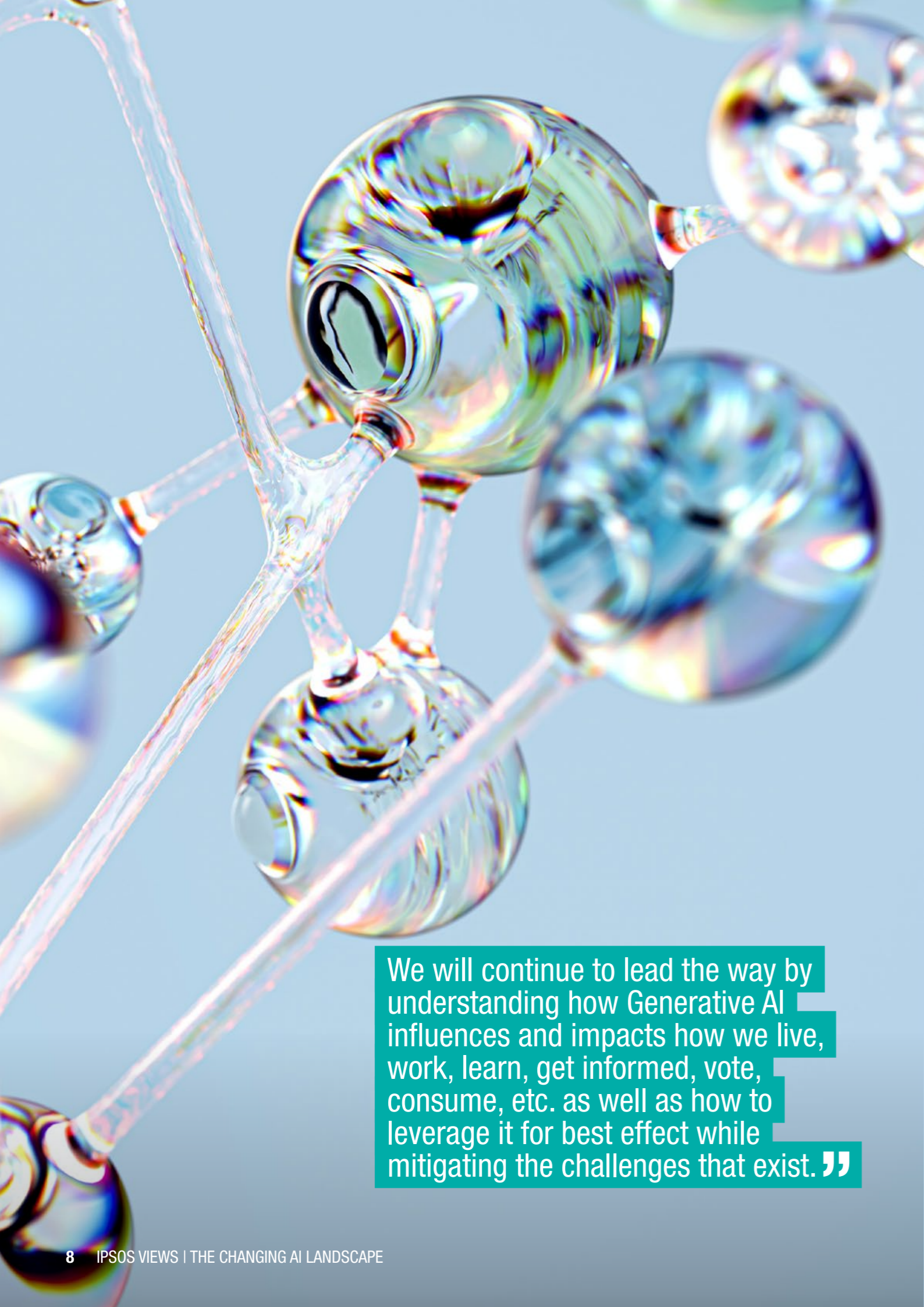
While this dimension used to be viewed as less important than accuracy and explainability, given the broad use and practical implications, the fairness and ethical issues of AI and Generative AI are critically important today.<sup>10</sup> There are three critical aspects to this domain. First is the use of data. One should never put client data, confidential, or Intellectual Property (IP) in the current versions that use

feedback to re-train the models. This treats the data as public and could go so far as violating GDPR and customer contracts or give away competitive advantage, and Italy became the first western country to ban and investigate ChatGPT for privacy concerns. Second, as with all AI tools, the accuracy, fairness, and implications of the models can create their own ethical issues and the more autonomous the tools, the greater the risk. Finally, Generative AI adds a new dimension of ethics around the rights of the creators of original content that feeds into the training. Thus, the rights of artists and authors whose styles can be emulated, or examples where text snippets have already been found that are challenged as plagiarism (not just by students, but corporate messaging, speeches etc.) raise questions on the rights and responsibilities of original creators and the users of these tools.

*“When it’s free, you are the product.”* Whatever someone inputs into an open Generative AI application becomes publicly available. Therefore, one must make sure we keep away from it any IP, Personally Identifiable Information (PII), anything proprietary or of high value, as it would then become available to anyone on the web. That is in the process of being resolved by creating “walled gardens” within which specific Generative AIs can be trained on proprietary

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We will continue to lead the way by understanding how Generative AI influences and impacts how we live, work, learn, get informed, vote, consume, etc. as well as how to leverage it for best effect while mitigating the challenges that exist. ”

information that will only be accessible to the relevant people. Except in those cases though, beware of what you share and never simply assume feedback is off.

“Average is not enough”. Fast forward a couple of years, when Generative AI is likely everywhere (including embedded in Word, Excel, Teams, etc. as per Microsoft’s recently

unveiled plan to integrate ChatGPT into its suite of products). A few such AIs will likely dominate the landscape at that time, and for the vast majority of users that will not only level the playing field, but it could also lead to less creativity with people becoming too lazy to think by themselves. We could observe a new era of regression to the mean, of flat dullness induced by a few AIs that dominate the conversation.

## HOW IPSOS HELPS NAVIGATE THIS BRAVE NEW WORLD

While the last section raises issues that need to be considered, they do not temper the huge impact that LLMs, multimodal models, and Generative AI will have. These tools are already being embedded in tools used by millions everyday from search engines to productivity suites and many more. Given their potential for learning, research, insights, and production, building on the explicit evaluation of use cases is key. In this way, we see the greatest potential by leveraging these tools with humans in the loop at Ipsos.

The idea of having humans in the loop has been key in AI for years and is relevant for all aspects of the conceptualization, selection of training data, training, modeling, and use of AI models to maximize their utility and quality as we strive for *truth, beauty, and justice*.

At Ipsos, our understanding of data is not less relevant, but more so in the era of AI and Generative AI. This is key for both understanding how best to leverage the models, from desk research to scenario-gaming, as well as creating

and leveraging quality data to build on base models to improve them further for practical use cases. We will fine tune and extend the existing models with Ipsos data and IP, leveraging our decades of expertise as well as our 20,000 staff across 90 markets to train our selected AIs on not just what everyone knows, but also on where Ipsos adds decisive value, to your benefit.

If you are a business leader, you may already be experiencing FOMO: you may feel that something is happening, that it’s big, and you will want to understand what that means for your customers, providers, technologists, and employees. At Ipsos, we can help you understand what is changing for your organization, your constituents or stakeholders, your industry, and the world. That’s what we have always done, and we will continue to lead the way by understanding how Generative AI influences and impacts how we live, work, learn, get informed, vote, consume, etc. as well as how to leverage it for best effect while mitigating the challenges that exist.



In an era where past data will be more readily available than ever, we can help you ask the right questions to detect the signal from the noise. How to converse with an AI, how to craft the most relevant and useful prompts, is going to become more important than ever. At Ipsos, we are experts in the art of the question, and we will work with you and your teams to make the most of Generative AI and help you understand the ways to evaluate them for your own use.

When working with Ipsos, you will have the guarantee to know the sources of the data used, and also that you are speaking to “real people” when you want to. Our efforts to ensure quality, accurate data and insights, and counter misinformation carry over into our use and support of AI as well.

Ipsos’ motto “**You act better when you are sure**”, is more relevant than ever. Please reach out to your Ipsos team for assistance.

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