

Study 2024

"The impact of generative AI on students".

April 2024

Image created with Midjourney

This study is taken from the survey conducted at the Hackathon transversal 2024 "Artificial intelligence, generative AI and their societal challenges".
It is part of the dynamic Hyperion research project initiated by the Pôle Léonard de Vinci, RM conseil and the Talan group.



Editorial

The study, "**The Impact of Generative AI on Students**", was carried out using survey data from February and March 2024 as part of the Pôle Léonard de Vinci's transversal educational Hackathon: **Artificial Intelligence, Generative AI and their societal challenges**. Over a period of 5 days, this Hackathon brought together 1,600 4th-year students from the three Pôle Léonard de Vinci schools: **EMLV** (Management), **ESILV** (Engineering) and **IIM** (Digital).

This study marks a **world first**, analyzing the impact of generative AI technologies on **4th year graduate students following a variety of academic courses**: Management, Engineering, Digital and Creative.

Carried out in two massive waves, at the very start of the Hackathon (1119 responses) and post-Hackathon (711 responses), this survey captured the students' perspectives. It enabled them to express their uses, understanding and future projections of generative AI, through almost 150 quantitative and qualitative questions.

This initiative sheds light not only on current uses, but also on the expectations of younger generations with regard to these technologies. **It also provides valuable data for economic and academic decision-makers**. It provides an additional perspective to illustrate the recommendations of the National Artificial Intelligence Commission's report "**AI: Our Ambition for France**", published in March 2024.

In this respect, the Pôle Léonard de Vinci's cross-disciplinary pedagogical Hackathon has proved its effectiveness in training people in record time to better understand and integrate the advantages and disadvantages of generative AI.

Wave 1 of questions took place in the early hours of the Hackathon and collected responses from 1,119 students. The second wave took place after the end of the Hackathon, collecting 711 responses. These sessions enabled us not only to collect quantitative data, but also to immerse ourselves in students' qualitative reflections on AI-related societal issues.

The results reveal essential and surprising insights into the integration of generative AI into students' future academic and professional paths. These insights are crucial for anticipating the necessary adaptations in educational curricula and preparing companies to integrate this new generation into their teams.

We'd like to salute the commitment of Laure Bertrand, Director of Soft Skills, Sustainable Development and Careers at the Pôle Léonard de Vinci and organizer of the cross-disciplinary Hackathon, and her entire team, whose efforts were instrumental in the success of this, the ^{29th} cross-disciplinary Hackathon they've run since 2016, on societal topics.

Their work illustrates the scale of what can be achieved to prepare students and the country more widely for the challenges and opportunities presented by artificial intelligence and generative AI.

Joachim Massias

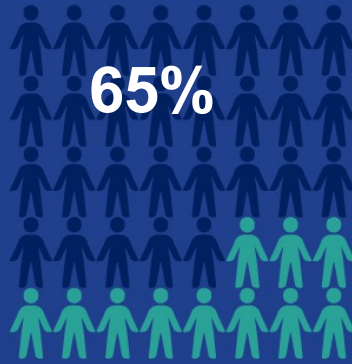
Study leader - Director of the MBA in Artificial Intelligence and Data Innovation at Devinci
Executive Education & RM conseil - Consulting
Director at RM conseil

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THE IMPACT OF IA GENERATIVES ON STUDENTS

Study based on a survey conducted as part of the Pôle Léonard de Vinci's cross-disciplinary Hackathon. "Artificial intelligence, generative AI and their societal challenges", which brought together 1,600 4th-year students from ESILV, IIM and EMLV schools in February and March 2024.
This study is part of the Hypérion research project initiated by Devinci Executive Education's MBA in AI and data innovation, which aims to study the impact of generative AI on society. It brings together the schools of the Pôle Léonard de Vinci and the Talan Group.



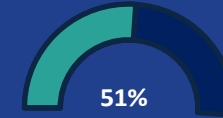
65% of students believe that the presence of generative AI is one of the main criteria for choosing their future company



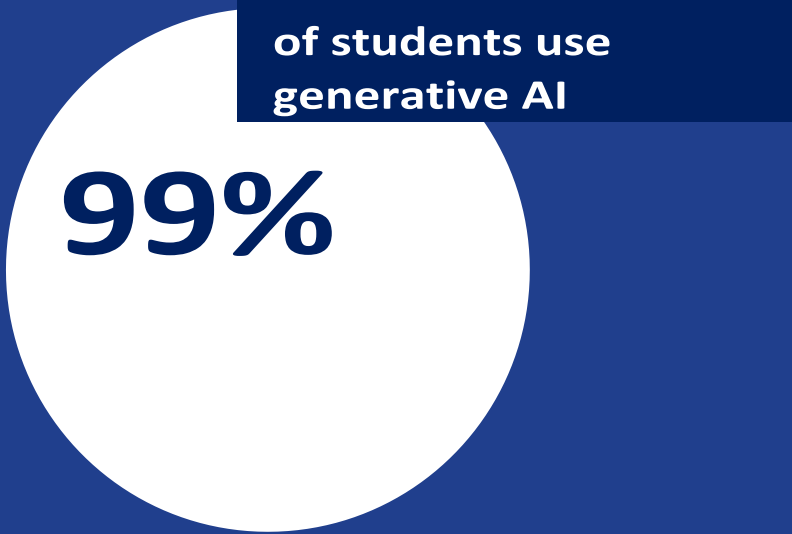
70% of students have a positive view of artificial intelligence



52% of students say ChatGPT influences their choices

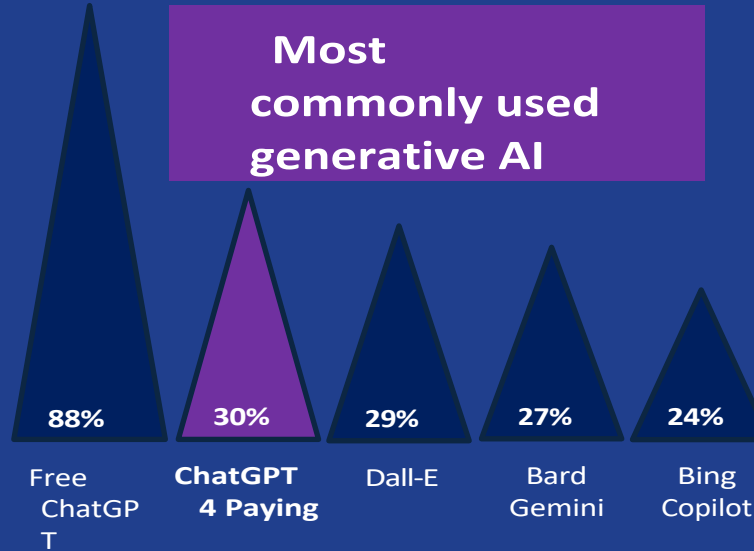


51% of students find it hard to do without ChatGPT

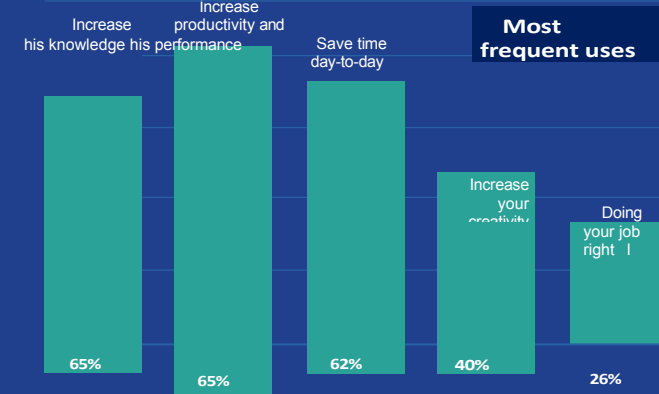


99% of students use generative AI

30% of students pay a ChatGPT 4 subscription at €20 per month



Most commonly used generative AI



Most frequent uses



30% Use generative AI daily

92% of students use generative AI on a regular basis

Summary of results

Generative AIs have made **considerable inroads with students**, with **99% of them using them** and **92% using them regularly**. In fact, **30% use them on a daily basis**, a figure made all the more striking by the fact that 88% use ChatGPT. It is therefore important for companies to take this into account, as it is difficult to switch from one tool to another once habits have become established. On the other hand, the recurrent use of generative AI in the daily work environment can significantly change the way people work. This is another point that companies will need to prepare for.

Indeed, if we compare these figures with the 2024 barometer "The French and generative AI" by Ifop for Talan, which came out in April 2024 (see page 32), only 22% of those aged 35 and over are using generative AI. A considerable gap that could lead to a **real generational shock in the day-to-day life of companies**, and difficulties in accepting the uses of these technologies within teams.

Another striking feature of the survey is the fact that **1/3 of students pay €20/month for access to ChatGPT 4**. This extremely high figure, given the price, gives a clearer idea of the benefits they are likely to derive from these tools. The use of **Midjourney for 24% of them is also a striking indicator, given that access costs a minimum of €10/month**, and that these are often the same students as those using paid access to ChatGPT...

Among the main **gains perceived by students** thanks to generative AI:

- **83% reduce their working hours**
- **79% improve their ability to solve complex problems**
- **65% increase their productivity and performance**
- **62% save time in daily life**

There's a **real craze for this technology**, based on very tangible perceived benefits. Beyond the **ease of use recognized by 95% of students**, it's easy to understand why **51% say they would find it hard to do without ChatGPT**, and **51% acknowledge that ChatGPT influences their choices**. A **dependency** that needs to be questioned, as these tools are marked by cultural biases or errors in text generation.

Students are well aware of the shortcomings of these tools. This may, in part, be due to the Hackathon, which was designed to provide a better understanding of these technologies. Indeed, **59% said that generative AIs generate errors**, and **57% said they didn't want ChatGPT (OpenAI) to have more information about them, so that answers would be more relevant**. **2/3 of students are aware that these solutions, massively American today, present cultural risks (training of algorithms, etc.) and sovereignty risks**.

On the business side, **92% see their day-to-day professional life as being shaped by the massive presence of generative AI**, **88% consider it important for an employer to make generative AI available to its employees**, and **65% believe that the presence of generative AI is one of the main criteria for choosing their future company**, ahead of CSR (Corporate Social Responsibility) policy (63%).

As far as training in artificial intelligence and generative AI is concerned, **the Hackathon proved to be a formidable learning and knowledge transmission booster**, with **77% of students finding that it enabled them to better understand the major issues surrounding AI** (both positive and negative), 74% that it enabled them to better analyze the advantages and disadvantages linked to AI and generative AI, and to take a step back to better analyze their impact on society. The two-stage project reflection methodology, first without generative AI, then with it, was praised by almost 70% of students. 83% also said that generative AI did not replace reflection with other team members.

As can be seen, the large-scale Hackathon shows just how **effective this learning device can be in enabling a very large number of people to appropriate knowledge about AI and generative AI in record time**, a national desire highlighted in the AI Commission's report "AI: our ambition for France" released in March 2024.

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Students' perception of artificial intelligence

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A positive view of AI

70%

Students take a **positive view of artificial intelligence**

9,5%

Worried about artificial intelligence

70% of students have a **positive view of artificial intelligence**, which contrasts with the sense of anxiety among the French population regularly highlighted in opinion surveys on the subject (see Baromètre 2024 Ifop pour Talan "Les Français et les IA génératives page 32). This positive feeling is, as we shall see, directly linked to a better knowledge of the subject than the rest of the population.

However, the students don't have a "blissful vision" of artificial intelligence and generative AI. **They have a good perception of the associated benefits and risks.**

This perception and capacity for analysis were greatly enhanced by the Pôle Léonard de Vinci's week-long cross-disciplinary Hackathon, to which the students were invited.

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The use of generative AI

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Massive adoption of generative AI

99%

Use generative AI

92% use it regularly

30% use it daily _____

32% use them in their professional, personal and student activities

The results of this survey show that **99% of students use generative AI on an absolutely massive scale.**

On the other hand, the regular frequency of use of generative AI is also extremely high (92%).

1/3 of students use generative AI on a daily basis!

We can speak of a **real breakthrough in generative AI among students, the majority of whom will be taking up their first corporate positions in a year's time.**

This is all the more notable given that the 2024 barometer "**The French and generative AI**" by Ifop for Talan released in April shows that **only 22% of those aged 35 and over use them!**

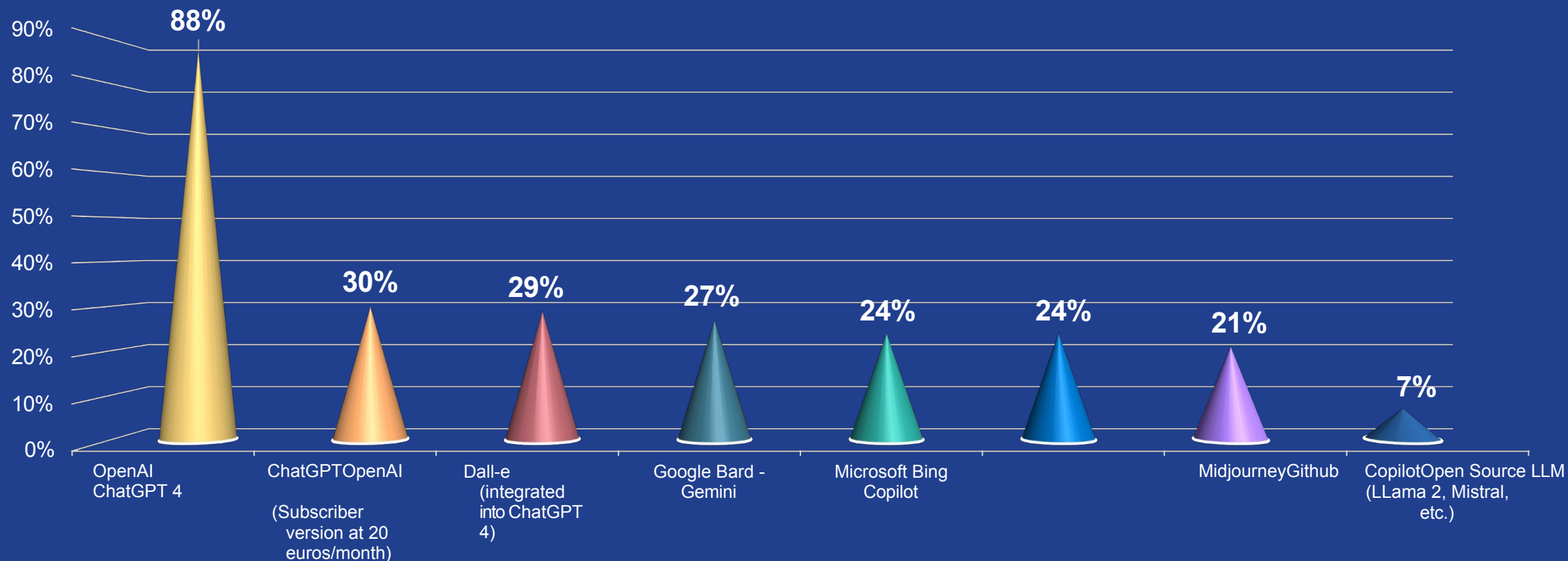
In the coming years, companies will have to prepare for a possible "generational shock" in working practices and methods if their managers and employees are not themselves trained for these changes.

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The most widely used generative AIs

The most widely used generative AIs



Unsurprisingly, **ChatGPT is by far the most popular generative AI used by students (88%)**. OpenAI's biggest breakthrough came with the public launch of ChatGPT in November 2023 (1 million users in 5 days).

Key fact: 1/3 of students say they use a €20/month paid version of ChatGPT.

These figures show that students have become accustomed to using ChatGPT on a massive scale. Changing this could potentially pose problems, given the high level of use and frequency.

24% use the Midjourney image generator, which is also a paid generator with a minimum entry fee of €10/month. The use of Github Copilot is mainly due to ESILV students who do programming as part of their studies.

Testimonials

"Gpt4, really every day for many uses".

"I use generative AI several times a day, for cooking recipes, movie suggestions based on my preferences, or to make TDs!"

"I'm not very fond of chatgpt because I want to continue to be able to think for myself".

"I talk about it without a problem, there should be no shame in using an AI"

"Several times a day, although I prefer the good old google search for my information searches."

***"ChatGPT is indispensable in my editorial work.
dyslexic "***

"I think it's normal to use AIs, and we lose out by depriving ourselves of them."

***"I would say on a weekly basis. As soon as I'm in the learning process, ChatGPT is next door if I have any questions. I've gradually replaced tedious Google searches. However, for more specific information, I do manual searches on different engines.
research."***

"I like to talk about it with my friends and family, especially the older ones. They don't necessarily grasp the power of what certain AI models can do. So it's interesting to talk with them."

"Generative AIs have a good response capability, but you still need to have sufficient hindsight and understand what you're doing."

The uses and benefits of generative AI

Two immediate benefits

83%

Students report that generative AIs reduce their working time

79%

Find that generative AI enriches their ability to solve complex problems

Both text-generating and image-generating AI clearly save time (83%).

This is an absolutely massive figure. For 79% of students, this translates into real productivity and performance gains.

These indicators are complementary to those that characterize the benefits felt by users of generative AI: **gains in performance, time, knowledge**, and so on.

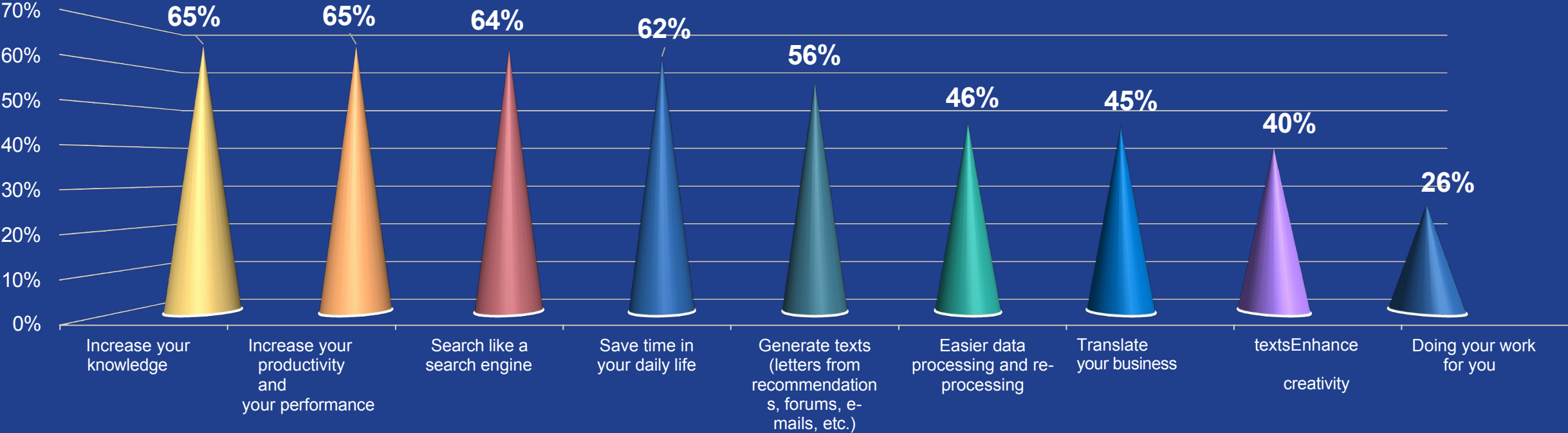
They give us a better understanding of the craze for this technology.

They also foreshadow the need for massive training of company employees in these technologies, as they will very soon be confronted in their day-to-day work with students who have mastered these technologies and their associated advantages.

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Uses and benefits



The **benefits appear numerous** when students use generative AI: increased knowledge, increased productivity and performance, saving time on a daily basis, increased creativity.

These results corroborate a study by the National Bureau of Economic Research (USA) showing that access to generative AI can increase employee productivity by an average of 14%, and by up to 40% according to other studies, depending on tasks and skill level.

Particular attention needs to be paid to the use of text-generating AIs by students to "search like a search engine", as this is one of the worst possible uses of generative AIs. The generation of false information, the distortion of queries made to "better qualify the request", or hallucinations are, in fact, major risks of misinformation.

Striking fact: 1/4 of students say they use generative AI to do their work for them.

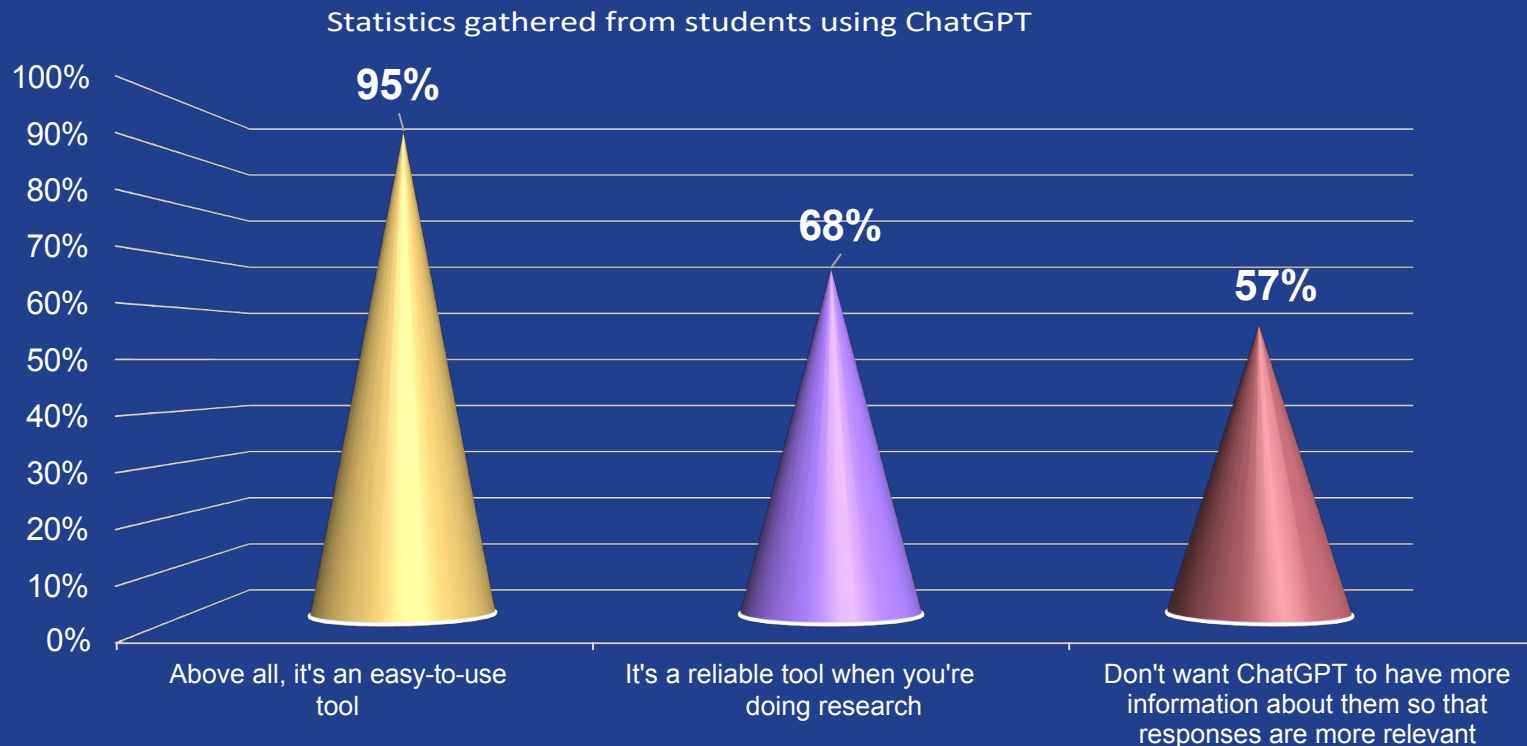
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Focus on ChatGPT

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Focus on ChatGPT



The main thing that students emphasize in their use of ChatGPT is the ease with which they can use it. This is a very important point for competing generative AIs, who must integrate this notion into their future solutions.

As mentioned above, using generative tools like ChatGPT as search engines poses a number of problems (see page 14).

It is therefore necessary, for all those who use these solutions, to focus on communicating the risks associated with this type of use (search tool), which can lead to numerous errors in responses.

There is also an obvious distrust on the part of students, who **don't want editors like OpenAI (ChatGPT) to have more information about them, even if it would make their answers more relevant.**

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ChatGPT, a tool for Influence and Dependency

52%

Students say ChatGPT influences their choices

51%

Find it hard to do without a tool like ChatGPT

The frequency with which generative AIs are used and disseminated to a wide audience has significant effects. More than half of students find that the answers they get from generative AIs are mainly from the one they use the most, **ChatGPT has a significant influence on the choices they can make.**

This is all the more important given that generative AIs are trained on predominantly Anglo-Saxon data, and are therefore highly oriented by the culture corresponding to the textual sources with which the algorithms have been trained.

Moreover, dependence on these tools is not without consequences. Indeed, questions are being raised about the skills that will need to be taught in a few years' time, once the tool itself performs a large number of tasks.

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Clear and simple expectations

Continuous training, a challenge specific to generative AI

67%

Students would like to be better trained in the use of generative AI (Prompts, etc.).

Training trainers in this technology is a major issue so that France can quickly become a major player that understands, deploys and innovates massively with generative AI.

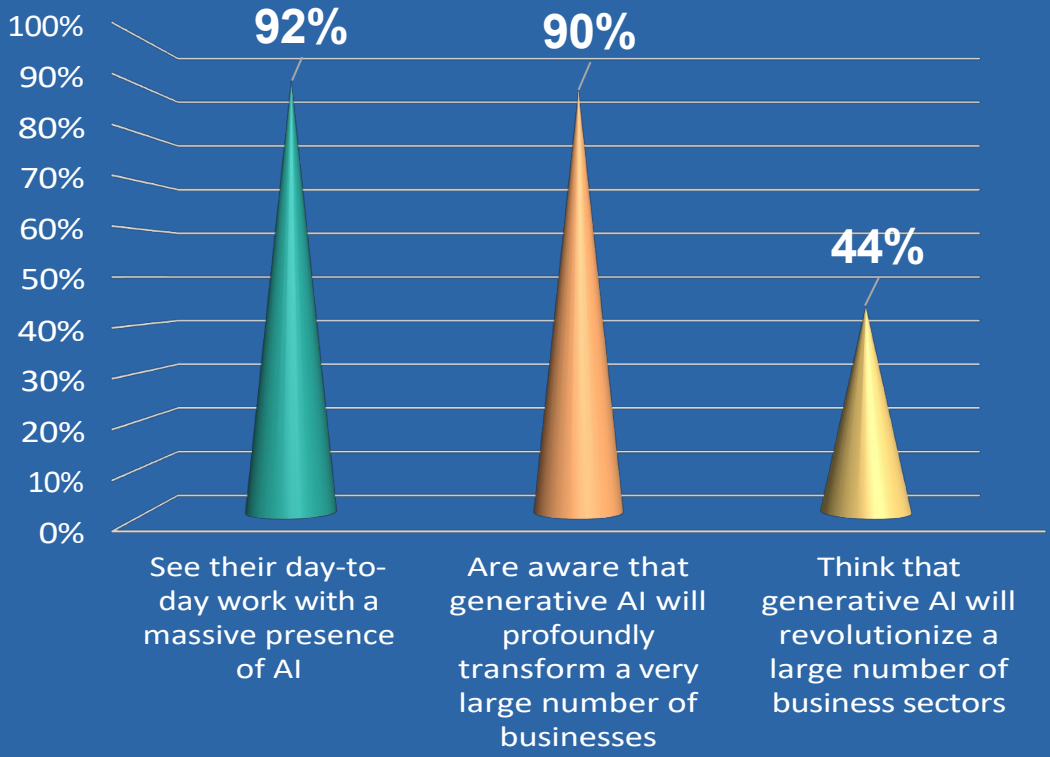
Algorithms and solutions are evolving at a very fast pace, which means that we need to be able to keep abreast of new developments and innovations in this technology on a regular basis.

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Generative AI in the workplace: what lessons can companies learn from it?

A compelling case for companies to evolve rapidly (1/2)



88% think it's important for employers to make generative AI available to their employees

65% believe that the presence of generative AI is one of the main criteria for choosing their future company, ahead of CSR (Corporate Social Responsibility) policy (63%).

The massive arrival of generative AI in students' daily lives is having a major impact on their perception of what tomorrow's business sectors and professions will look like. However, these prospects do not create any particular fears with regard to this technology.

It seems imperative that companies prepare for the arrival of this generation, which has already fully integrated the codes of usage and the benefits it can derive from this technology and its applications. They are making it a real argument of choice in terms of attractiveness for future employment.

There could be a real generational clash if we compare the 92% of students who use generative AIs regularly with just 22% of those aged 35 and over who have used them at least once (Ifop Barometer for Talan, April 2024).

A compelling case for companies to evolve rapidly (1/2)

83%

Students say they are not afraid of generative AIs

8%

Declare that they avoid talking about, or are ashamed to talk about, the use of generative AI in the company, to avoid being judged.

The students have clearly understood, through use, **the role of generative AI as a tool.**

Furthermore, in the 2024 barometer "Les Français et les IA génératives" (The French and generative AI) by Ifop for Talan", 51% of generative AI users say they hide this use from their N+1 (they were 68% in 2023).

it doesn't seem to be a subject for students, who are very open about talking about it to anyone (family, friends, professional environment).

Ambassadors to spread this technology, but well aware of the shortcomings and risks.

Real ambassadors to spread this technology

90%

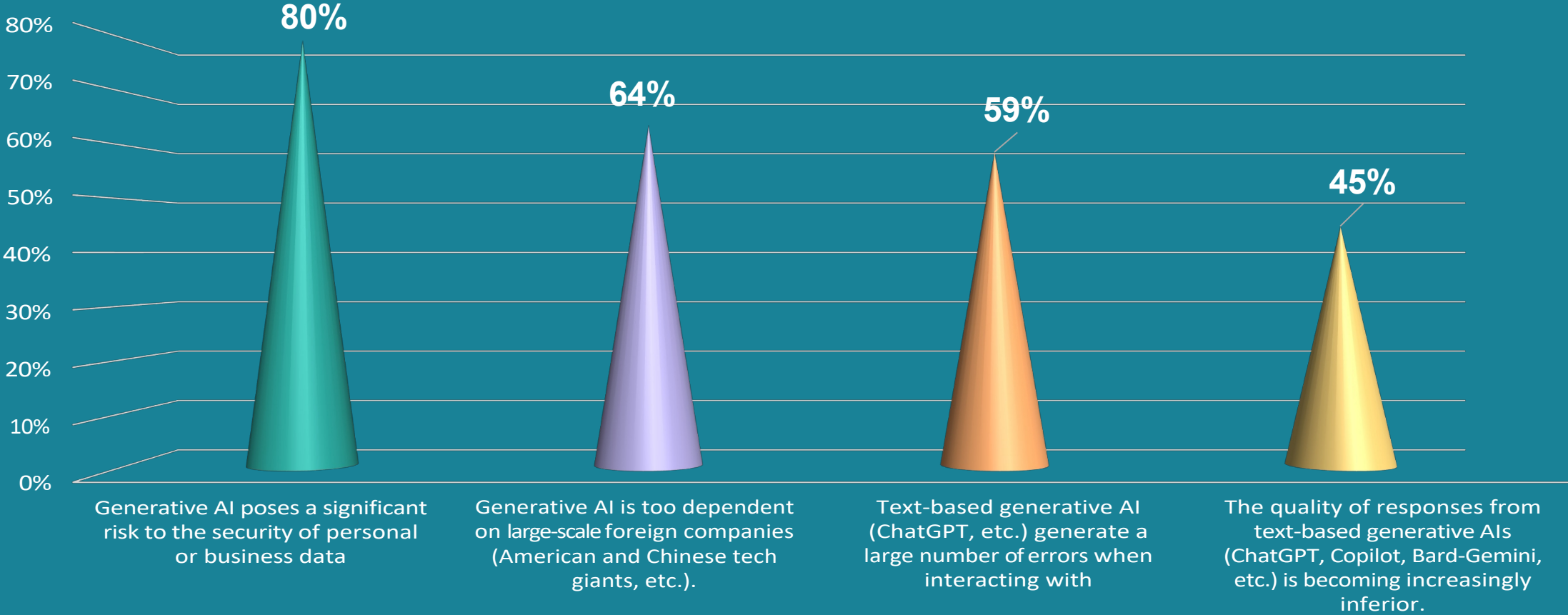
Students would recommend the
use of generative AI to friends
and family

This figure is a very strong indication of how useful students find this technology. When we compare these responses to the 2024 barometer "The French and generative AIs" by Ifop for Talan", only 32% of French people would recommend the use of generative AIs to their loved ones. **This difference is undoubtedly due to students' greater awareness of these technologies and their benefits.**

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Awareness of defects and risks associated with generative AI



Behind the students' commitment to the various generative AI solutions, there is also a good awareness of the structural flaws of these technologies and the risks associated with them.

Nearly 2/3 of students are also aware that these solutions, massively American today, present cultural risks (training of algorithms, etc.) and sovereignty risks that they occupy such an important place in the daily lives of so many of them.

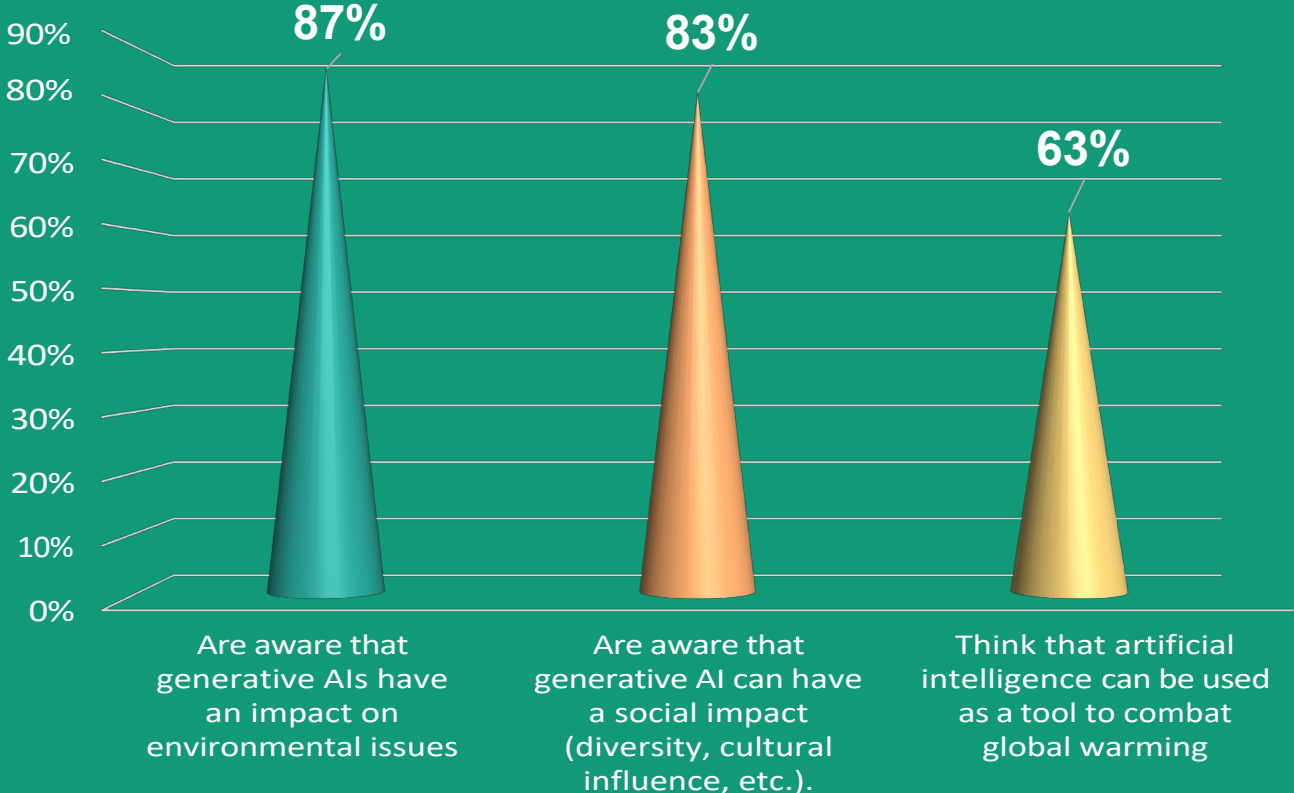
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The social and environmental challenges of generative AI

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The impact of generative AI on social and environmental issues



49%

Students believe that generative AI may pose a risk to democracy

Throughout the Hackathon, we were able to see that the students had taken on board the new technologies. **environmental and social risks linked to generative AI and, more generally, to the impact of digital technology.**

The risk to democracy is directly linked to the ability of generative AI to create Deepfakes and massive texts to flood social networks with false information. With half of humanity due to vote in 2024, there are understandably many concerns about the ability of certain states to strongly influence these elections using generative AI technologies.

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The Pole Léonard de Vinci's AI and generative AI Hackathon, a particularly effective event to train and understand the challenges of generative AI

Positive practices for using generative AI effectively

Throughout the 5-day Hackathon, students had to follow a **methodology for thinking** about their topics: first **without generative AI, then with it**. This methodology was repeated at every stage of the thoughts.

68% believe that the Hackathon and its methodology enabled them to better measure the contribution that generative AI could make to their thinking.

64% that this methodology has positively changed the way people think about their subject

59% think it has helped them develop their critical thinking skills

58% believe that the methodology enabled them to realize that this operation, without and then with generative AIs, was necessary when using generative AIs in their daily lives.

83%

Declare that generative AIs did not replace discussions with other team members

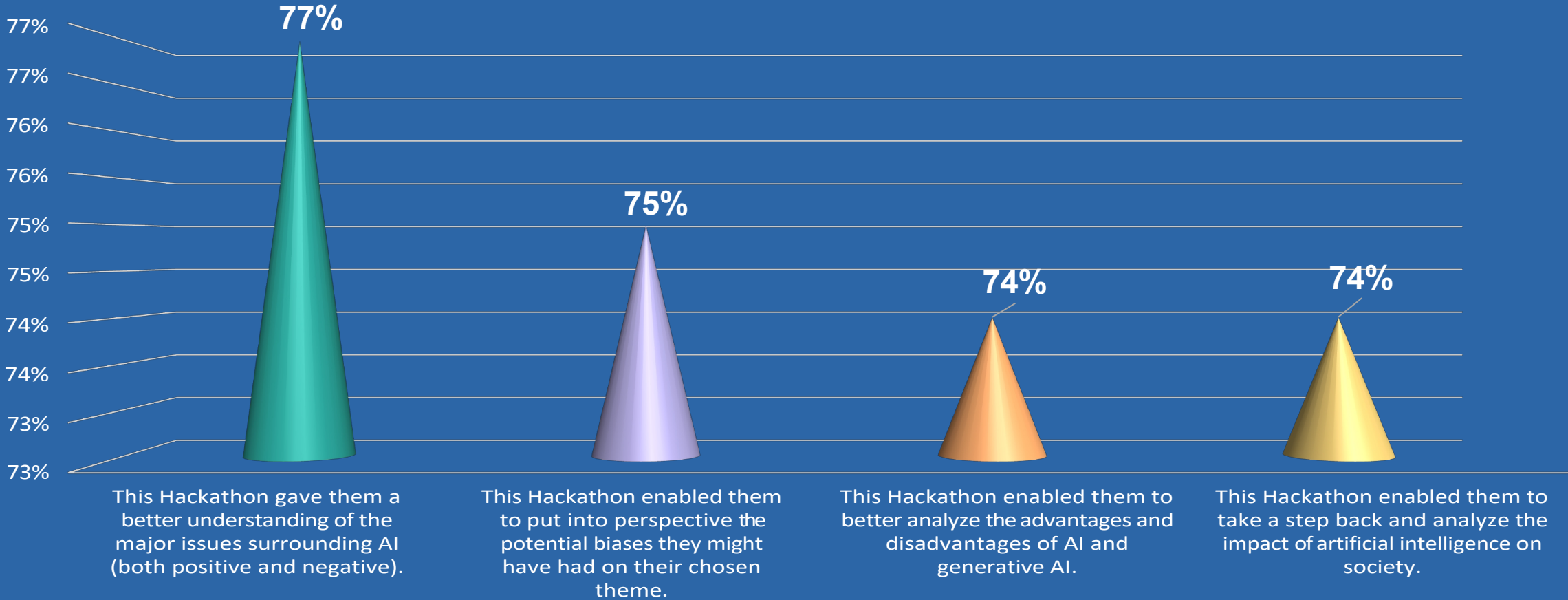
We can see from the various responses that **the methodology of thinking without generative AI and then repeatedly with it has had very positive effects.**

During the Hackathon, the students clearly realized that generative AIs, however powerful they may be, need to be used with discernment and respect for steps in order to benefit fully from them.

This scaled-up example, which has been set up with 1,600 students, is an excellent response to the recommendations of the national commission on generative AI, which has just submitted its report on making France a leader in AI in the years to come, and training the French.

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An effective tool for hands-on learning about generative AIs



The main lessons learned from this Hackathon are that **the students were able to capitalize on the knowledge provided by the framework documents and the methodology for tackling, step by step, the various themes linked to artificial intelligence and weigh up the advantages and disadvantages of this technology.**

To find out more...

**This study makes several references to the Ifop
barometer for Talan published in April 2024.**

"The French and generative AI", whose main indicators are as follows

THE FRENCH AND IA GÑNÑRATIVE!

Étude réalisée par l'ifop pour Talan en avril 2024

The survey was carried out among a sample of 1103 people, representative of the French population aged over 50.



+60%

Number of French users of generative AI over one year



44% results generative AIs as they are without verification

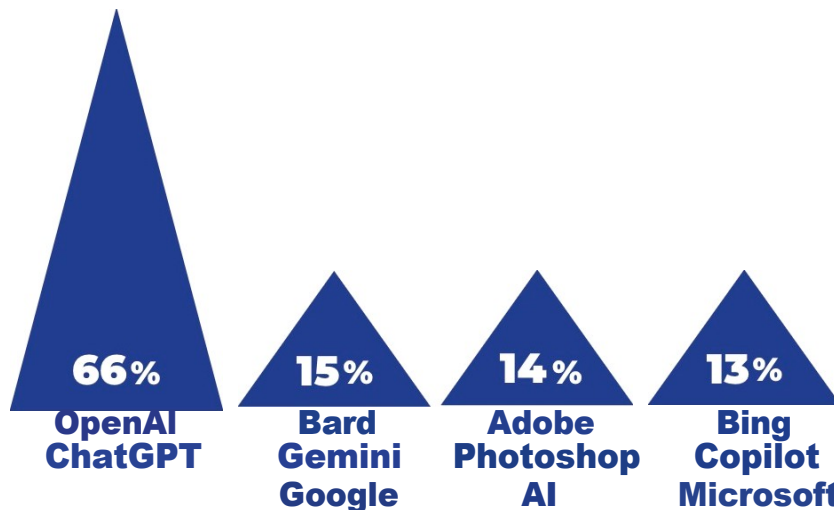


35% declare that JIs would find it difficult to do without generative AI



79% are concerned about generative AIs

78%



Contacts and thanks

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Thanks

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Laure Bertrand and her teams for their tremendous help throughout the process,

Pôle Léonard de Vinci school managements,

To Devinci Executive Education's MBA AI and data innovation students for their participation,

To the Talan Group and its research and innovation center headed by Laurent Cervoni. Thanks to Hugues Ali Mehenni, for his contribution to the cross-referencing of survey data,

To all the people who have contributed, in one way or another, to the completion of this survey, to advance the knowledge and impact of generative AI in society.

About us

The **Pôle Léonard de Vinci** is made up of four higher education establishments awarding recognized diplomas that cover complementary disciplinary fields, particularly in the digital sector: a business school, the EMLV (Ecole de Management Léonard de Vinci); an engineering school, the ESILV (Ecole Supérieure d'Ingénieurs Léonard de Vinci), a digital school, the IIM (Digital School) and a continuing education establishment, De Vinci Executive Education.

RM conseil is a positive-impact consultancy that supports decision-makers in their efforts to have a positive impact on society. RM conseil is the creator and organizer of the Cercle de Giverny, the Forum de Giverny, France's leading event on CSR issues, and numerous technology forums (Forum de l'intelligence artificielle, etc.).

The **Executive MBA in Artificial Intelligence and Data Innovation** from **Devinci Executive Education** and **RM conseil** is an MBA that since 2018 has been training hundreds of managers and executive teams to integrate and deploy artificial intelligence as part of their business. In early 2023, the MBA, through its director Joachim Massias, developed the Hypérion project, a research project that aims to study the impact of generative AI in society. The Hyperion project is led by the MBA in Artificial Intelligence and Data Innovation, and supported by the Talan Group's research and innovation center, RM conseil and the Pôle Léonard de Vinci schools.

Talan is an international consulting group specializing in transformation and innovation through technology. For over 20 years, Talan has been advising companies and public institutions. The Group supports and implements their transformation and innovation projects in France and abroad. Present on five continents, the Talan Group expects to achieve sales of €600 million in 2024 for more than 5,000 consultants, and aims to exceed the €1 billion mark in sales by 2026. The group puts innovation at the heart of its development and operates in fields linked to the technological mutations of major groups, such as Artificial Intelligence, Data Intelligence, Web3, Blockchain or IoT. By placing the "humanistic practice of technology" at the heart of its strategy, the Talan Group is convinced that it is by serving people that technology multiplies its potential for society.

