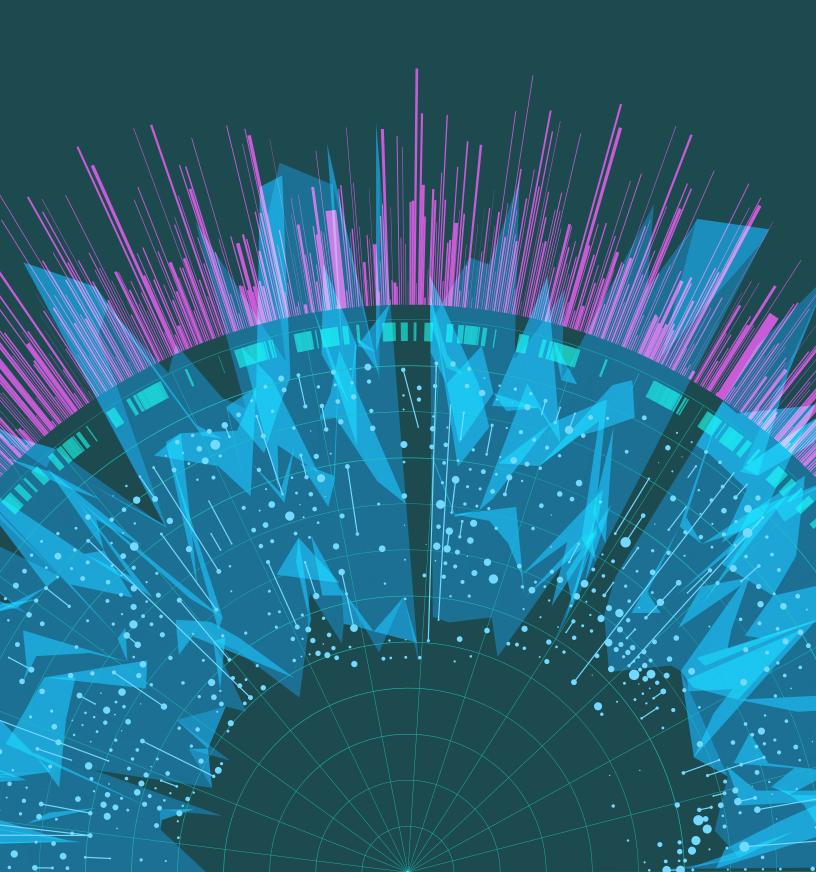


CHAPTER 9: Public Opinion





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ACCESS THE PUBLIC DATA

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Overview

As AI becomes increasingly ubiquitous, it is important to understand how public perceptions regarding the technology evolve. Understanding this public opinion is vital in better anticipating AI's societal impacts and how the integration of the technology may differ across countries and demographic groups.

This chapter examines public opinion on AI through global, national, demographic, and ethnic perspectives. It draws upon several data sources: longitudinal survey data from Ipsos profiling global AI attitudes over time, survey data from the University of Toronto exploring public perception of ChatGPT, and data from Pew examining American attitudes regarding AI. The chapter concludes by analyzing mentions of significant AI models on Twitter, using data from Quid.



Chapter Highlights

1. People across the globe are more cognizant of Al's potential impact—and more nervous.

A survey from Ipsos shows that, over the last year, the proportion of those who think AI will dramatically affect their lives in the next three to five years has increased from 60% to 66%. Moreover, 52% express nervousness toward AI products and services, marking a 13 percentage point rise from 2022. In America, Pew data suggests that 52% of Americans report feeling more concerned than excited about AI, rising from 38% in 2022.

- 2. Al sentiment in Western nations continues to be low, but is slowly improving. In 2022, several developed Western nations, including Germany, the Netherlands, Australia, Belgium, Canada, and the United States, were among the least positive about Al products and services. Since then, each of these countries has seen a rise in the proportion of respondents acknowledging the benefits of Al, with the Netherlands experiencing the most significant shift.
- **3. The public is pessimistic about Al's economic impact.** In an Ipsos survey, only 37% of respondents feel Al will improve their job. Only 34% anticipate Al will boost the economy, and 32% believe it will enhance the job market.
- **4. Demographic differences emerge regarding Al optimism.** Significant demographic differences exist in perceptions of Al's potential to enhance livelihoods, with younger generations generally more optimistic. For instance, 59% of Gen Z respondents believe Al will improve entertainment options, versus only 40% of baby boomers. Additionally, individuals with higher incomes and education levels are more optimistic about Al's positive impacts on entertainment, health, and the economy than their lower-income and less-educated counterparts.
- **5.** ChatGPT is widely known and widely used. An international survey from the University of Toronto suggests that 63% of respondents are aware of ChatGPT. Of those aware, around half report using ChatGPT at least once weekly.



9.1 Survey Data

Global Public Opinion

This section explores global differences in AI opinions through surveys conducted by Ipsos in 2022 and 2023. These surveys reveal that public perceptions of AI vary widely across countries and demographic groups.

Al Products and Services

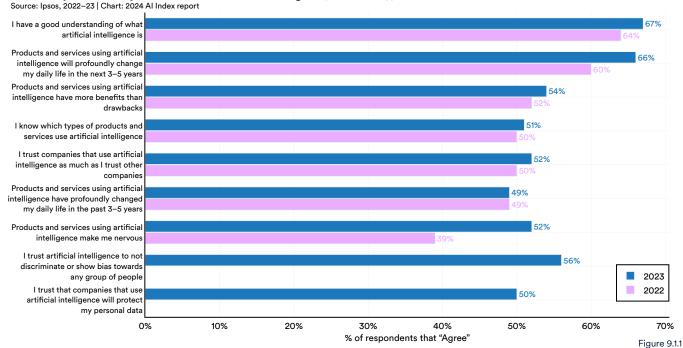
In 2023, <u>Ipsos</u> ran a survey on global attitudes toward AI products and services. The survey consisted of interviews with 22,816 adults ages 16 to 74 in 31 countries.¹

Figure 9.1.1 shows the percentage of respondents who agree with specific statements. A significant 66% anticipate AI will greatly change their lives in the

near future, while 54% believe Al's benefits surpass its drawbacks. About half of the respondents trust Al companies' data-protection capabilities.

The figure also contrasts Ipsos survey responses from 2022 and 2023, highlighting a shift in public AI sentiment following the release of ChatGPT—a milestone in public AI recognition. Over the last year, there has been a noticeable 6 percentage point increase in those who think AI will dramatically affect their lives in the next three to five years. Moreover, 52% now express nervousness toward AI products and services, marking a 13 percentage point rise from 2022. The public across the globe is becoming increasingly cognizant of and nervous about AI's growing impact.

Global opinions on products and services using AI (% of total), 2022 vs. 2023



1 See Appendix for more details about the survey methodology. The survey was conducted from May to June 2023.



Perceptions of Al's benefits versus drawbacks vary considerably by country, according to the Ipsos survey. 78% of Indonesian, 74% of Thai, and 73% of Mexican respondents view Al products and services as more beneficial than harmful (Figure 9.1.2). In contrast, only 37% of Americans agree with this perspective. Among the 31 countries surveyed, the United States and France exhibited the most skepticism.

Attitudes toward AI are becoming more positive in countries that were previously critical. In 2022, several

developed Western nations, including Germany, the Netherlands, Australia, Belgium, Canada, and the United States, were among the least positive about AI products and services. Since then, each of these countries has seen a rise in the proportion of respondents acknowledging the benefits of AI, with the Netherlands experiencing the most significant shift. By 2023, 43% of Dutch respondents viewed AI products and services positively, up from 33% the previous year.



'Products and services using AI have more benefits than drawbacks,' by country (% of total), 2022 vs. 2023

Source: Ipsos, 2022-23 | Chart: 2024 Al Index report

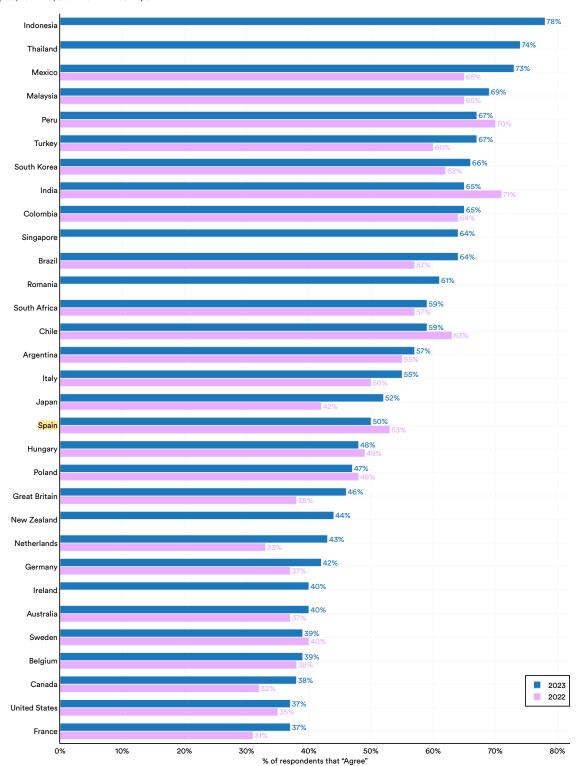


Figure 9.1.2



Figure 9.1.3 shows responses to Ipsos' survey on Al products and services by country. Indonesian respondents are notably optimistic: 84% claim a solid understanding of Al, 79% believe Al will significantly change their lives in the next three to five years, and 75% express excitement about Al products and services.

Conversely, Japanese respondents show the least understanding of AI (43%) and also report the lowest level of nervousness about AI (23%). Meanwhile, Thai respondents exhibit the highest trust in AI's impartiality, believing it will not discriminate or show bias toward any group.

Opinions about AI by country (% agreeing with statement), 2023



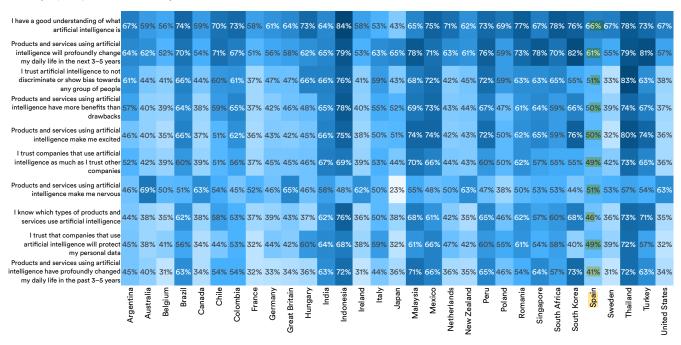


Figure 9.1.3



A large majority of the countries surveyed by Ipsos in 2022 were surveyed again in 2023, enabling cross-year comparisons. Figure 9.1.4 highlights the year-over-year percentage point change in answers to particular AI-related questions. For every country surveyed in both 2022 and 2023, an increase was reported in the degree to which AI products make people nervous. The sharpest increases were reported in Italy

(24 percentage points), France (19), Chile (18), and Australia (18).

Likewise, except for South Africa, all countries in the survey sample are now more inclined to believe that AI will significantly impact their lives in the next three to five years. The highest increase of 12 percentage points was reported in Japan, Great Britain, Germany, and Australia.

Percentage point change in opinions about AI by country (% agreeing with statement), 2022-23

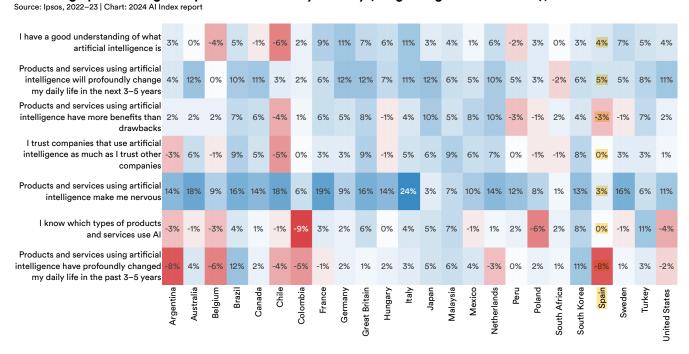


Figure 9.1.4

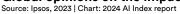


Al and Jobs

This year's Ipsos survey included more questions about how people perceive Al's impact on their current jobs. Figure 9.1.5 illustrates the various global perspectives on the expected impact of Al on employment. 57%

of respondents think AI is likely to change how they perform their current job within the next five years, and 36% fear AI may replace their job in the same time frame.

Global opinions on the impact of AI on current jobs, 2023



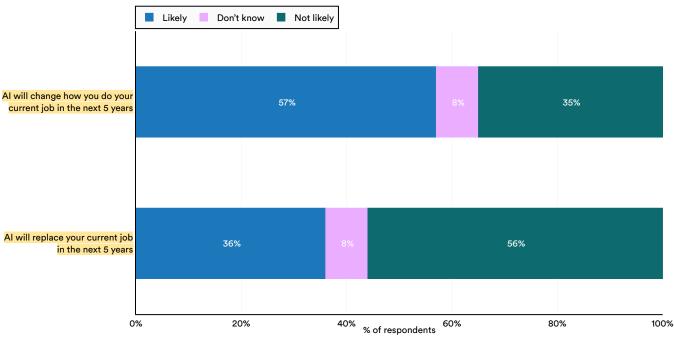


Figure 9.1.5



Opinions on whether AI will significantly impact an individual's job vary significantly across demographic groups (Figure 9.1.6). Younger generations, such as Gen Z and millennials, are more inclined to agree that AI will change how they do their jobs compared to older generations like Gen X and baby boomers.

Specifically, 66% of Gen Z compared to 46% of boomer respondents agree with the statement that AI will likely affect their current jobs. Additionally, individuals with higher incomes, more education, and decision-making roles are more likely to foresee AI impacting their current employment.

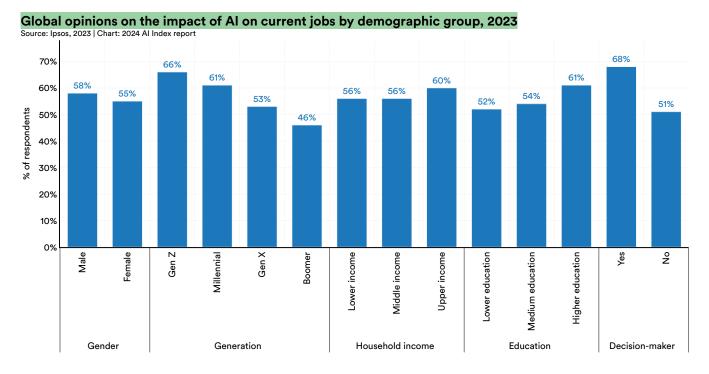


Figure 9.1.6



Al and Livelihood

The Ipsos survey explored the impact respondents believe AI will have on various aspects of their lives, such as health and entertainment. On topics like time management and entertainment, the majority viewed AI positively (Figure 9.1.7). For instance, 54% of global respondents agree that AI will improve the efficiency of their tasks, and 51% believe AI will enhance entertainment options like TV, movies, music, and books. However, skepticism was more prominent in other areas. Only 39% feel AI will benefit their health,

and 37% think it will improve their job. Only 34% anticipate AI will boost the economy, and just 32% believe it will enhance the job market.

Similar to questions about AI products and services, responses showed intracountry consistency, with Japanese, Swedes, and Americans generally pessimistic about AI's potential to improve livelihoods, whereas Brazilians, Indonesians, and Mexicans were more optimistic.

Global opinions on the potential of Al improving life by country, 2023



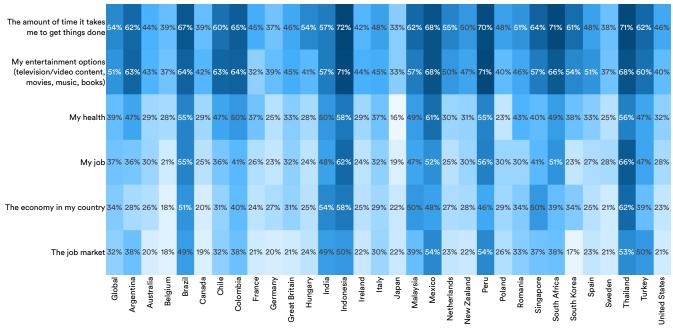


Figure 9.1.7



Significant demographic differences also exist in perceptions of Al's potential to enhance livelihoods, with younger generations generally expressing greater optimism. For instance, 59% of Gen Z respondents believe Al will improve entertainment options, versus only 40% of baby boomers. Additionally, individuals with higher incomes and education levels are more optimistic about Al's positive impacts on

entertainment, health, and the economy compared to their lower-income and less-educated counterparts. In general, members of Gen Z, those in higher income brackets, and those with more education are the most optimistic about Al's potential to improve life, while those from the boomer generation, lower income brackets, and with less education are the least optimistic.

Global opinions on the potential of AI improving life by demographic group, 2023

Source: Ipsos,	2023 Chart: 2024 Al Ind	lex report		

The amount of time it takes me to get things done	55%	53%	63%	57%	52%	43%	47%	53%	61%	46%	53%	60%	56%	50%	
My entertainment options (television/video content, movies, music, books)	52%	51%	59%	55%	51%	40%	47%	51%	57%	47%	51%	55%	54%	47%	
My health	42%	36%	46%	42%	37%	30%	34%	40%	43%	35%	39%	41%	41%	35%	
Му јов	38%	35%	46%	41%	31%	26%	33%	36%	41%	34%	35%	40%			
The economy in my country	37%	31%	40%	38%	31%	26%	32%	35%	38%	30%	33%	38%	37%	29%	
The job market	34%	30%	39%	36%	28%	23%	31%	32%	34%	30%	32%	33%	34%	28%	
	Male	Female	Gen Z	Millennial	Gen X	Boomer	Lower income	Middle income	Upper income	Lower education	Medium education	Higher education	Employed	Nonemployed	
	Gen	der		Gener	ation		Hou	sehold inco	me		Education		Employment status		

Figure 9.1.8



Attitudes on ChatGPT

Many argue that the launch of ChatGPT by OpenAI in November 2022 was a watershed moment in familiarizing the public with AI. While AI encompasses much more than ChatGPT or LLMs, the prominence of ChatGPT as one of the most well-known AI tools makes gauging public sentiment toward it an interesting approach for better understanding broader opinions on AI.

Global Public Opinion on Artificial Intelligence
(GPO-AI) is a report created by the Schwartz
Reisman Institute for Technology and Society (SRI)
in collaboration with the Policy, Elections and
Representation Lab (PEARL) at the Munk School of
Global Affairs and Public Policy at the University of

Toronto. In October and November 2023, researchers from SRI and PEARL conducted a 21-country survey examining global attitudes toward AI.

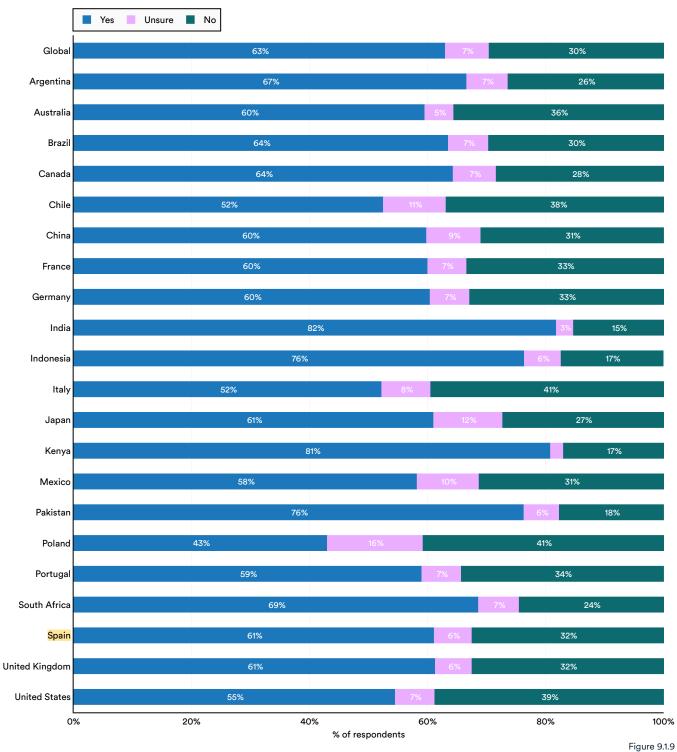
Figure 9.1.9 explores the extent of global public awareness of ChatGPT. Among global respondents, 63% claim awareness of ChatGPT. Countries with the highest awareness rates include India (82%), Kenya (81%), Indonesia (76%), and Pakistan (76%). Poland reported the lowest awareness, at 43%.

Figure 9.1.10 highlights how frequently respondents who report being familiar with ChatGPT use the tool. Globally, 17% of users utilize it daily, 36% weekly, and 16% monthly. India (36%), Pakistan (28%), and Kenya (27%) report the highest levels of daily usage.



Global awareness of ChatGPT (% of total), 2023

Source: Global Public Opinion on Artificial Intelligence (GPO-AI), 2024 | Chart: 2024 Al Index report





Global usage frequency of ChatGPT (% of total), 2023 Source: Global Public Opinion on Artificial Intelligence (GPO-AI), 2024 | Chart: 2024 AI Index report

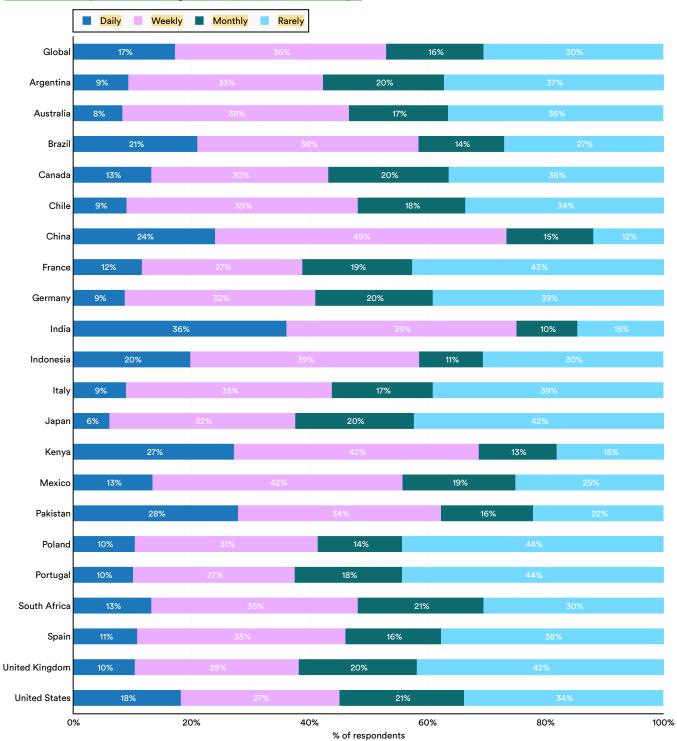


Figure 9.1.10



Al Concerns

GPO-Al also reported on respondents' Al-related concerns. Figure 9.1.11 presents the percentage of survey respondents who expressed concern about 11 specific impacts. Globally, individuals were most concerned about Al being misused for nefarious

purposes (49%), its impact on jobs (49%), and its potential to violate citizens' privacy (45%). In contrast, global citizens were comparatively less concerned about issues of unequal access to Al (26%), Al's potential for bias and discrimination (24%), and their own ability to use Al (22%).

Global concerns on the impacts of AI in the next few years, 2023

Source: Global Public Opinion on Artificial Intelligence (GPO-AI), 2024 | Chart: 2024 Al Index report

Misuse/use for nefarious purposes		63%	45%	46%	52%	56%	39%	44%	57%	34%	66%	47%	52%	34%	52%	31%	51%	62%	47%	58%	48%	43%
Impact of Al on jobs	49%	53%	45%	47%	49%	58%	39%	43%	42%	48%	59%	40%	36%	54%	54%	51%	37%	57%	68%	49%	49%	43%
Violation of citizens' privacy	45%	53%	45%	46%	48%	57%	39%	43%	44%	35%	46%	40%	33%	34%	43%	31%	49%	57%	55%	53%	40%	43%
Dehumanization of services	/11%	52%	43%	44%	49%	54%	22%	51%	40%	28%	28%	42%	38%	37%	47%	21%	27%	59%	49%	54%	44%	39%
Lack of transparency in decision-making		35%	42%	35%	38%	35%	27%	30%	33%	36%	36%	31%	24%	36%	33%	28%	32%	41%	47%	35%	35%	32%
Impact of Al on education	.5.5%	32%	28%	33%	34%	33%	26%	28%	27%	41%	35%	24%	25%	47%	30%	43%	28%	37%	43%	33%	27%	27%
Ethical implications	30%	32%	38%	28%	37%	34%	25%	22%	27%	32%	23%	25%	24%	33%	29%	23%	25%	37%	30%	34%	35%	32%
Accuracy of results and analysis		23%	38%	18%	32%	24%	24%	23%	24%	39%	30%	20%	29%	43%	25%	34%	20%	22%	38%	20%	31%	30%
Uneven access to Al	26%	35%	21%	35%	24%	32%	23%	23%	23%	29%	29%	19%	27%	22%	30%	19%	20%	32%	28%	28%	18%	19%
Potential for bias and discrimination	2/1%	20%	34%	26%	30%	23%	20%	17%	22%	29%	33%	18%	18%	28%	23%	18%	16%	27%	29%	24%	32%	26%
My own ability to use Al	22%	22%	18%	20%	18%	24%	18%	19%	16%	36%	30%	17%	16%	33%	27%	31%	14%	22%	29%	18%	19%	19%
	Global	Argentina	Australia	Brazil	Canada	Chile	China	France	Germany	India	Indonesia	Italy	Japan	Kenya	Mexico	Pakistan	Poland	Portugal	South Africa	Spain	United Kingdom	United States

Figure 9.1.11



U.S. Public Opinion

Since 2021, Pew Research Center has been investigating sentiment toward AI in the United States. They received 11,000 responses to their most recent 2023 survey.

Figure 9.1.12 shows that over the last year, Americans have grown increasingly concerned about the use of Al in their daily lives. In 2021 and 2022, only 37% and 38% of Americans, respectively, reported feeling more concerned than excited about AI technology. By 2023, this figure had risen to 52%, indicating that a majority of Americans now feel more concerned than excited about AI technology.

Americans' feelings toward increased use of Al in daily life (% of total), 2021-23

Source: Pew Research, 2023 | Chart: 2024 Al Index report

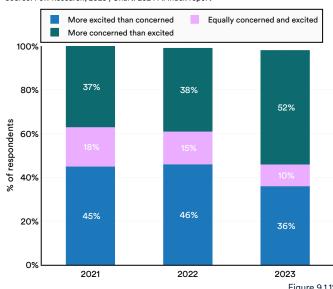
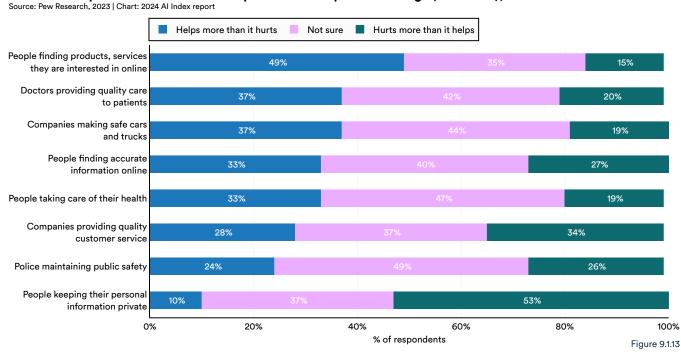


Figure 9.1.12

Pew also surveyed Americans' opinions on whether they believed AI helped or hindered in specific contexts (Figure 9.1.13). Respondents reported that AI was more likely to be beneficial, particularly in assisting people to find products or services online, with 49% expressing this view. However, 53% of respondents indicated that AI was more likely to be detrimental than beneficial in safeguarding personal information privacy.

Americans' opinions of whether AI helps or hurts in specific settings (% of total), 2023





Pew further segmented the data by education level (Figure 9.1.14). Across various use categories, Americans with higher education levels are more likely to believe in Al's potential to help rather than harm. For instance, individuals with college or higher-

level degrees are more likely to report that AI can significantly aid doctors in delivering quality care to patients and assist people in discovering products and services online that interest them.

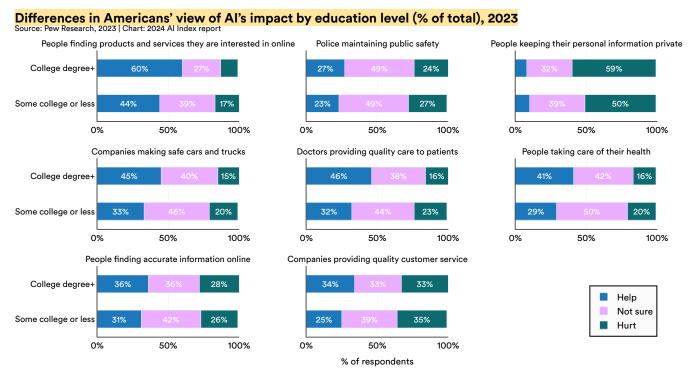


Figure 9.1.14



9.2 Social Media Data

Dominant Models

Public attitudes toward AI can be assessed through both quantitative and qualitative analyses of posts made on social media. Quid analyzed social conversations surrounding AI models across various sectors from January to December 2023, examining over 7 million social media posts.

Figure 9.2.1 shows the net sentiment score of various Al models released throughout the year. The net

sentiment score expresses the ratio of positive to negative sentiment around a given topic. A net sentiment score of +100 means that all conversation is positive; a score of -100 means that all conversation is negative. Many models released in 2023 received positive social media sentiment. Some of the models that garnered the highest degree of positive attention were GraphCast, a new Al-powered weather forecasting system from DeepMind, and Claude 2.1, one of Anthropic's most recent LLMs.

Net sentiment score of Al models by quarter, 2023



Figure 9.2.1



Figure 9.2.2 highlights the proportion of Al-related social media conversation that was dominated by the release of particular models.² GPT-4 remained a dominant topic of consumer conversation throughout the year. Despite the release of numerous new models by

the fourth quarter of 2023, GPT-4 still captured 45% of social media attention. Other models that garnered significant attention included Grok, Stable Diffusion, and Gemini.

Select models' share of Al social media attention by quarter, 2023

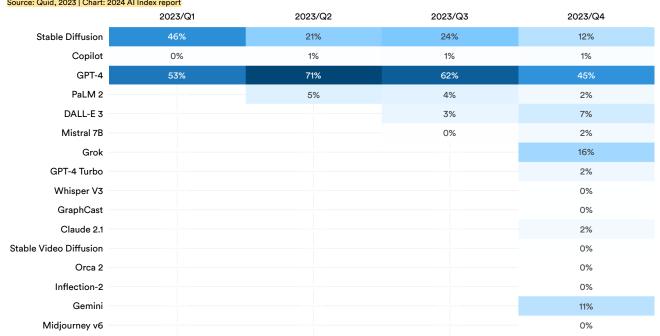


Figure 9.2.2

² The figures in this section consider all Al-related social media conversation. The percentage associated with a model in a quarter in Figure 9.2.2 represents the share of all Al-related social media conversation in that quarter that was concerned with that model.



Highlight:

Al-Related Social Media Discussion in 2023

The following section, featuring data from Quid, profiles specific narratives surrounding the discussion of AI that occurred on social media in 2023. GPT-4 gathered most of the discussion volume in Q2 after its launch on March 14, 2023. Positive sentiment was primarily driven by its improvements, including faster processing speed, improved accuracy, and praise for its ability to enhance productivity across different types of work tasks, such as coding, corporate collaboration, and content creation. Negative sentiment primarily stemmed from complaints about occasional crashes of the ChatGPT website, along with an open letter led by Elon Musk and supported by over 1,300 artificial intelligence experts, urging Al laboratories to pause training of powerful AI systems. Moreover, there was disagreement regarding the "open letter" and the suggestion to halt AI research, particularly considering its potential to have a positive impact across multiple fields. For example, Andrew Ng posted:

"1/The call for a 6 month moratorium on making AI progress beyond GPT-4 is a terrible idea. I'm seeing many new applications in education, healthcare, food, ... that'll help many people. Improving GPT-4 will help. Lets balance the huge value AI is creating vs. realistic risks." — @AndrewYNg

In Q4 2023, discussions surrounding the release of GPT-4 Turbo, launched in November, saw a significant increase. Positive sentiment centered around its innovative features and upgrades that could transform programmers' workflows. These enhancements included longer conversation capabilities, improved contextual understanding, and multimodal ability to generate images. However, some negative feedback arose due to disappointment with the model's knowledge cutoff in April 2023 and slower loading speeds compared to GPT-4. Some of the sample social media posts from this time included:

"This is just insane... My GPT-4 coding assistant can now: - build and design a frontend - create a backend with working db - correctly hook them up - upload code to GitHub - deploy it to Vercel[.] I can now build *complete* apps with nothing more than my voice. The future is here!" — @mckaywrigley

"Trying to make my LinkedIn profile more interesting if a recruiter is using a large language model like GPT-4 to send me a message. Looks like it works on the public version of my profile!"

— @brdskggs

"GPT-4 Turbo has knowledge of the world up to April 2023. @sama says the team is 'just as annoyed as you, maybe more' that the knowledge is not more updated and that @openai will work to make sure it never gets that outdated again."

@VentureBeat



Highlight:

AI-Related Social Media Discussion in 2023 (cont'd)

Discussions about Stable Diffusion were more prominent in the first half of 2023, but decreased toward the year's end. More posts mentioned Stable Diffusion XL models than Stable Diffusion 2.0 (around 16 times more). Positive sentiment was mainly driven by the tool's rapid increase in popularity, the potential benefits of AI in enhancing creativity, and the excitement surrounding technical advancements and improvements (e.g., enhanced accuracy, better understanding of various concepts, and higher resolution). On the other hand, negative sentiment revolved around concerns about legal and ethical issues related to Al-generated content, such as copyright violations, ownership of Al-created material, and the possible replacement of human artists by Al. Additionally, worries were expressed about the risks and threats linked to artificial intelligence, like its potential harmful effects, the spread of misinformation, and the possibility of AI being used for academic cheating.

"Very happy about sharing smashed Stable
Diffusion models! - In one line of code, we
compressed popular text-to-image Stable
Diffusion models for A100. - Evaluations across
various metrics show significant speedup
improvements, energy savings, and CO2
emissions savings. Now looking forward [to]
sharing more compression results:) Feel free
to contact us to achieve the same on your own
models https://pruna.ai/contact;)"

— <u>@Bertrand_Charp</u>

"Stable Diffusion XL with ControlNet is insane of Discover the future of AI with Stability AI's latest innovation: Stable Diffusion XL (SDXL) 1.0! This powerful text-to-image generation model improves image quality and makes it easier for users to create highly detailed images. Built on a massive 3.5 billion-parameter base model, SDXL 1.0 boasts better accuracy and understanding of various concepts. Want to know more? Check out my video where I delve deeper into this groundbreaking technology!" — @work.with.ai

Both Gemini (from Google) and Grok (from xAI) saw an increase in conversations during Q4 due to their late year launches. Positive feedback for Gemini focused on its improved accuracy and multilingual capabilities, as well as its potential to enhance various Google services like Search and Ads. On the other hand, negative opinions stemmed from concerns about inaccurate results, disappointment over Gemini's delayed release, and skepticism toward the Gemini AI demo.

"WHAT IS GOOGLE GEMINI AND HOW CAN YOU USE IT?" — <u>Erik Hyrkas</u>

"Gemini Ultra (if Google is honest) Will Blow Our Minds ♥ " — <u>Tina Huang</u>