WHITE PAPER

The Future of Work: AI's Effect on Neurodivergent Knowledge Workers

What a new study of artificial intelligence and neurodiversity reveals about the coming era of productivity.


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What a new study of artificial intelligence and neurodiversity reveals about the coming era of productivity

In other transformational tipping points like the dot com boom, or the widespread adoption of remote work and the gig economy, the workforce has not always been ready or willing to accept monumental change quickly. AI is looking like a very different kind of transformational moment.

Several studies predict Generative AI will have a significant positive impact on enterprise companies:

92%

Productivity boost is expected by those who implement AI tools.

DELOITTE

$2.6-4T

In economic gains due to increased productivity.

MCKINSEY

105

Minutes saved per user per week for knowledge workers.

MICROSOFT

These promising statistics highlight the potential value of implementing AI tools internally and how they might assist specific populations to function better at work.

Existing research on neurodiverse adults' use of workplace technology is narrow at best, so **the Google Workspace team partnered with Blink UX to understand how GenAI affects productivity for neurodiverse knowledge workers.**

Through a two-phase approach — one-on-one qualitative interviews about Gemini in Workspace, Google's integrated AI assistant, and a heuristic evaluation of 10 AI productivity tools — we uncovered ways in which AI can support executive functioning and boost productivity by eliminating unnecessary day-to-day friction and ultimately enable new ways of working for neurodiverse users.

Participant makeup and demographics

We conducted 27 1:1 foundational qualitative interviews with a mix of internal Google employees and externally recruited participants who have been diagnosed or self-identify as neurodivergent. Through our interviews, we also identified 10 other AI-powered tools to investigate as a part of a heuristic evaluation.

	GOOGLE EMPLOYEE PARTICIPANTS	EXTERNALLY RECRUITED PARTICIPANTS
Employment	• Full-time • Sales, Marketing, Customer Support, Project Management, Product, IT, or Design	• Full-time or part-time • Sales, Marketing, Customer Support, Project Management, Product, IT, or Design
Workspace Tools	• Employer-paid WS account • Near-daily WS tool usage	• Employer-paid WS account • Mix of business size
Generative AI	• High Gemini and Gemini in WS usage • Subset of NotebookLM users	• Learn AI tools and prompts from social media and colleagues • More experience using non-Google AI tools
Identity	• ADHD, autism, or dyslexia • Mix of gender, ethnicity, and age	• ADHD, autism, or dyslexia • Mix of gender, ethnicity, and age

WHAT'S INSIDE

01

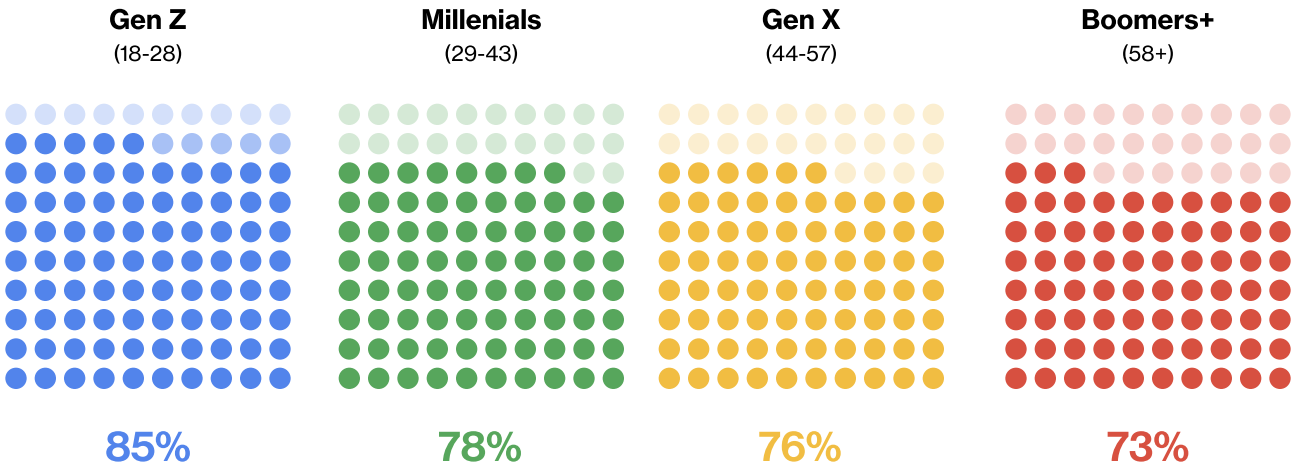
The AI Adoption Tipping Point for Neurodiverse Knowledge Workers

Recent findings show that a majority of the workforce has already adopted GenAI tools.

75% of global knowledge workers are using AI in daily workflows, and most have been using the technology for less than six months since it became widely available. Gen Z leads their generational counterparts in bringing their own AI tools to work without prompting from company leadership.

The population of neurodiverse knowledge workers is only expected to increase.

20% of the world's population identifies as neurodiverse, with Gen Z at around 53%. The majority of neurodiverse workers choose not to disclose their status at work due to fears of stigma or discrimination. As behavioral science evolves and neurodiversity becomes better understood culturally and in professional settings, the number of people who identify as neurodiverse continues to grow.



Survey respondents who reported using AI tools not provided by their organization. 2024 Work Trend Index Annual Report, Microsoft

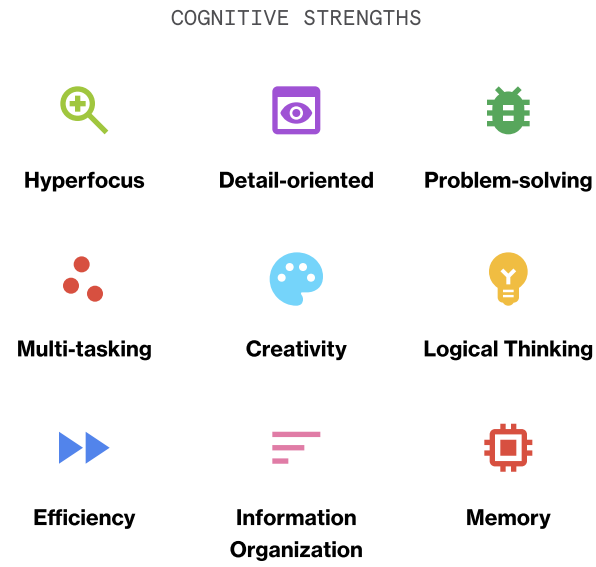
The cognitive strengths of neurodivergent populations

In psychology, research and analysis of the neurodivergent population has focused on deficits and weaknesses, but advocates stress the cognitive strengths of neurodiverse brains, some of which are essential for fresh innovation.

Neurodivergent thinking, learning, and processing can actually be superpowers.

Many participants in the Google | Blink study expressed how remarkable their brains are at processing and comprehending information, with one person likening their brain function to AI.

By supporting neurodiverse users, we can empower people to harness their strengths, achieve their productivity goals, and reach their maximum potential.



> **It became more of a superpower once I was enabled with the actual tools I need. Which is why I've always been so interested in computing, because of how much it could do to help me be more capable of expressing myself without the hindrance of being judged by things like spelling or grammar.**

P27, **Google Employee**

02

Redefining Productivity in the 21st Century

The Industrial Revolution, in which new technology and machines reshaped agricultural economies into manufacturing ones, was the beginning of our modern understanding of productivity as we know it today: how much output can be gained with the least amount of effort, and most importantly, the least amount of time?

But in the dawn of an AI-driven revolution, is time savings the best metric for assessing productivity?

Productivity for neurodiverse users is not just about getting things done faster.

Knowledge workers, while often managed and guided by task software, primarily operate autonomously, without much oversight. Their productivity, especially for neurodivergent individuals, hinges on self-driven efforts and personal measures of success.

Efficiency and Effectiveness

Doing things well without wasting time and resources. Many participants emphasize using tools and processes to optimize their workflow.

Goal Achievement

Accomplishing goals and tasks, such as meeting deadlines, closing cases, and delivering results well and on time.

Forward Momentum

Constantly moving projects forward, even in small increments, like following up with stakeholders, improving processes, and anticipating future needs.

Meaningful Contribution

For some participants it means making a real difference. They are supporting colleagues, improving products, or directly impacting customers.

Learning and Growth

Maximizing their own potential by utilizing their skills effectively, learning new things, and maintaining focus.

What is executive functioning?

There is one main barrier that neurodivergent knowledge workers face when trying to “be productive:” executive functioning.

Executive functioning (EF) refers to a set of cognitive skills that help individuals manage and regulate their thoughts, emotions, and actions to achieve goals. Essentially, executive functioning acts as the brain's “management system,” enabling people to navigate complex tasks and daily life effectively.

While frequently experienced by those identifying as neurodivergent, executive functioning challenges are also common among neurotypical individuals.

EXECUTIVE FUNCTIONING CHALLENGES

01 **Trouble focusing**
02 **Task execution**
03 **Impulse control**
04 **Working memory**
05 **Multitasking or balancing tasks**
06 **Motivation**
07 **Problem-solving**
08 **Learning or processing new information**
09 **Organization**
10 **Attention or listening**
11 **Emotion management**
12 **Appropriate social behavior**
13 **Taking or acting on feedback**
14 **Time management**
15 **Breaking projects into steps**

> **Time is my archnemesis. I’m so bad at working with her. Anything to take executive functioning pressure off of me is a critical factor.**

P27, **Google Employee**

What matters most to neurodiverse workers in generative AI workflows

When asked which of six productivity factors were most important when using Gen AI, participants overwhelmingly picked “producing higher quality work” and “optimizing my time” as the most important factors for feeling productive at work.

Higher importance factors

Helps me produce higher quality work

+ 18 👎 02

Optimizes my time

+ 17 👎 01

Expedites my knowledge transfer and sharing

+ 09 👎 08

> I want AI to help me solve all my mundane tasks, things that aren’t as critical, so I can spend more time on the things that are mission critical.

> I can’t imagine working without AI. It has helped me so much in terms of speed of use and efficiency, and it really is reducing the manual effort and time required for certain tasks.

> In my role, I need to focus on documentation, and it takes a lot of effort and energy to know what to put in. I have a ton of work around taking meeting notes to put into a usable format. Being neurodivergent, I have to document more stuff than the average person.

Lower importance factors

Transforms my work process

+ 03 👎 09

Makes Google tools more valuable or delightful (relative to other software)

+ 02 👎 11

Makes Workspace tools easier to use

+ 00 👎 10

Our results showed that AI can potentially bypass executive functioning challenges often faced by neurodivergent individuals, unlocking direct paths to productivity while creating space for their strengths and innovation — ultimately transforming how they work for the better.

03

AI Could Create a New Curb Cut Effect

Inclusive design is about more than just accommodation. When we design for accessibility for specific groups, data shows it benefits the larger population. This phenomenon is known as the "curb cut effect."

The sidewalk ramps that were originally designed for wheelchair users now benefit parents with strollers, cyclists, delivery workers, and travelers with luggage.

Inclusive design enhances usability for everyone. So when we examine how AI tools like Gemini in Workspace, Otter.ai, and Goblin.tool can benefit neurodivergent thinkers, we can also assume that these benefits will impact neurotypical brains as well.

> **Features supporting executive functioning — like task prioritization, clear information organization, and distraction reduction — does not just help neurodivergent users. It empowers anyone struggling with information overload or focus.**
>
> 
> Kristen Althizer, **UX Researcher** at Blink UX

I can't imagine working without AI. It has helped so much in terms of speed of use and efficiency, and it really is reducing the manual effort and time required for certain tasks. Like I said, the biggest ones are writing emails, organizing notes. That has been a godsend, because it's such a time suck.

P10, **Google Employee**

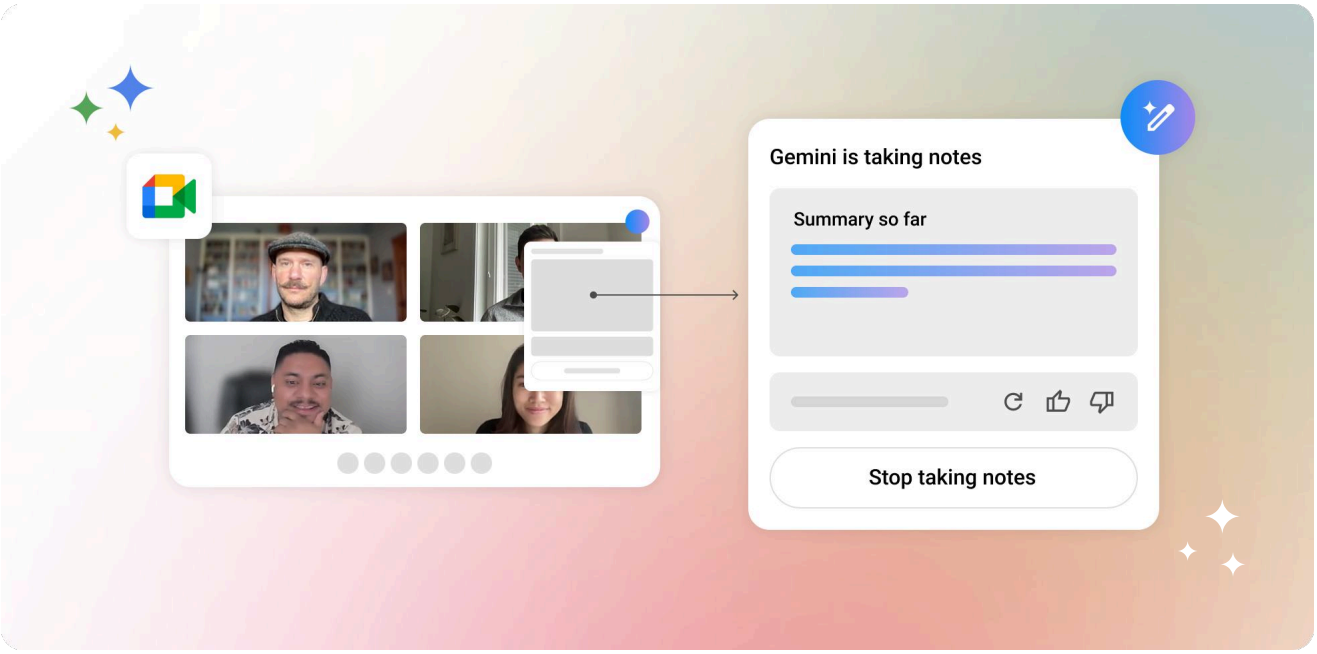
Participants reported that Gemini in Workspace helps bridge the gap of "good enough" and "perfect"

During qualitative interviews, participants reported Gemini in Workspace and other AI tools help them offload "mundane" tasks, freeing them up to work on more pressing, engaging, and deep-thinking tasks.

TOOL/FEATURE	TASK OFFLOADED
Gmail Side Panel	Surface and summarize key emails and action items
Google Slides: Help me Visualize	Generate relevant images in product to minimize distractions
Google Docs and Gmail: Help me Write	Write contextual, tone-appropriate writing
Otter.ai	Transcription assistance
Goblin.tools	Breaking down tasks into bite-size components
Google Meet: Take Notes for Me	Note taking and summarization
Duolingo Max	Contextualized feedback on correct and incorrect answers
NotebookLM	Process text-dense documents through podcast-style audio output

AI note-taking allowed for more transformative meeting participation

Out of current Workspace AI features, Gemini in Meet Take Notes for Me is a “game changer” for neurodiverse participants who struggle with staying focused, paying attention, and trying to keep up with conversation while typing.



TAKE NOTES FOR ME IN GOOGLE MEET

Capturing what’s important while allowing users to stay engaged

“Being able to go back and reference has been really important for me, especially if I wasn’t fully paying attention or didn’t catch what was being said...and with how I auditory process things, having it keep that record for me because when I am taking notes, it helps me when I’m manually taking notes, it helps me stay on track and pay attention.”

P01, **Google Employee**

Summarizing for clarity, gut-checking to-do lists

“I’ve found it’s really hard for me to take the notes to the level of detail that I would like and be an active listener. And so being able to have the Take Notes For Me feature, being able to have the summarization feature, that has been hugely helpful for someone like me who does have a tendency to bounce between tasks, just making sure that I’m not missing anything, especially when it comes to the action items and necessary follow-ups. I use it as a way to sort of gut check myself of: did I miss anything? Is my to-do list accurate?

P10, **Google Employee**

Striking the right tone in context to increase confidence

In collaborative workplaces, understanding and adhering to workplace social norms is strongly connected to productivity. Most neurodivergent participants expressed how transformative Gemini standalone is at helping them navigate interpersonal relationships and social interactions, which empowers them to be more productive.

Participants reported that Gemini also acts as an external validation for their ideas, giving them “a second set of eyes” on their work. It optimizes their time by increasing their confidence.

Working through social interactions

Participants describe Gemini as “a safe space” to work through their feelings, gut-check their assumptions, or counsel them through difficult moments.

> [Gemini standalone] acts like a therapist. It’s good at sorting out feelings and empathizing and seeing things from a neutral perspective.

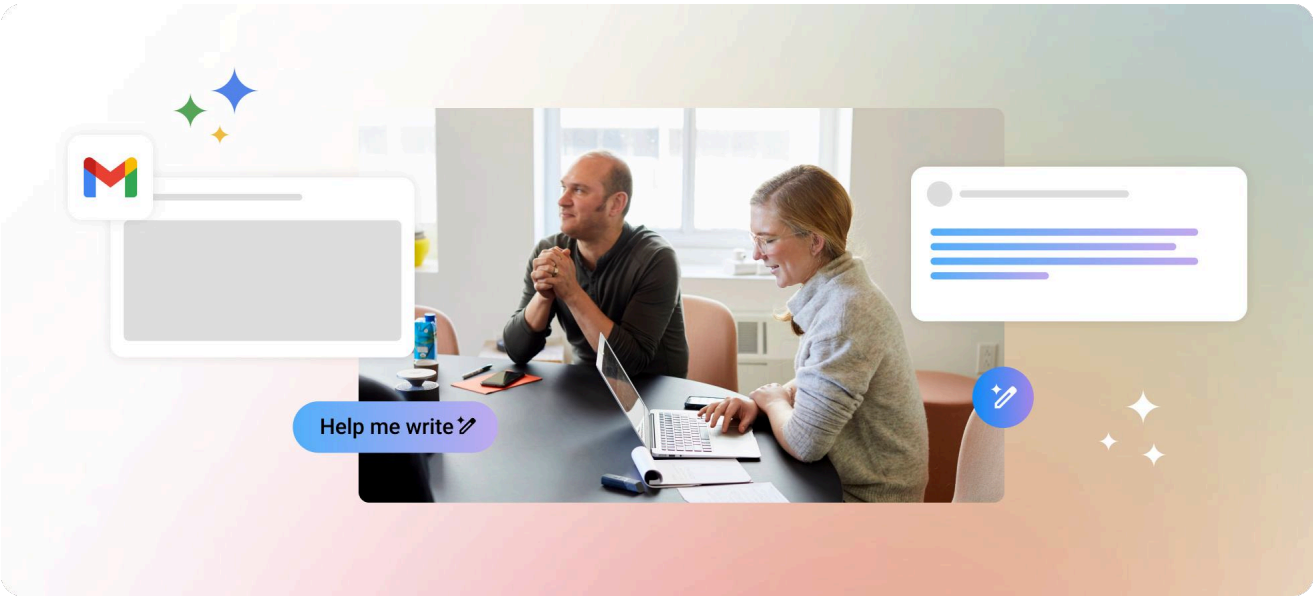
P27, **Google Employee**

Deciphering tone in writing

The Help Me Write feature in Docs and Gmail helps participants decipher the tone of others’ writing or communication. Email or messaging tone revision is important for all neurodivergent users.

> I’ve gotten feedback that my docs need to be more concise and also show a better understanding of my audience. So I use Gemini to make sure I’m on the right track with my teammates and manager.

P19, **Google Employee**



HELP ME WRITE IN GOOGLE GMAIL

Breaking down dense tasks into smaller, workable pieces

Task paralysis is a common struggle for neurodiverse minds, but it affects neurotypical people as well. In the heuristic analysis, tools that focused on solving a particular task, rather than more complex tools assisting with a variety of core work tasks, were more likely to be well received by participants.

> [Goblin.tools] is a page built specifically for neurodivergent people. And I absolutely love it. The task planner, [Magic ToDo], basically helps me break tasks down into smaller pieces. So sometimes it's just like, 'oh, this is an overwhelming task. I don't even know where to start.' I have this sort of paralysis at the very beginning. But if it breaks it down into smaller pieces, smaller tasks, then they all of a sudden look much more manageable. And I can just go through them one by one.

P18, **Google Employee**

Surfacing the most important information

In another case, Gemini in Gmail organizes and prioritizes Gmail inboxes for users, so they can easily surface tasks and action items for triage.

> I have only really ever thought about Gemini and email as like a thing for helping you generate words. This list of what it can do is intriguing. I always thought of it as helpful with writing, not with organizing things the way it looks like maybe you can do here. Summarizing a thread is cool...finding information from previous emails — that could be really nice.

P15, **External Participant**

Reducing context switching

Endless task and context switching are a drain on productivity, particularly for neurodivergent users. For example, searching for images while creating a presentation may inadvertently redirect their attention, causing the task to be delayed or abandoned completely for something else.

> I don't procrastinate as much. When I'm stuck on something, I would have a habit of dropping everything and just BS-ing until I'm playing a game, I'm doodling, I'm looking out the window...So when I don't understand something, I put it in to AI and it helps me break it down, even if it's just like, 'This is too heavy for me. Break it down to me like I'm six years old,' and then we can work our way back up."

P17, **External participant**

04

Unlocking potential in AI tools for knowledge workers

As AI tools become more available, significant gaps and unmet needs remain for neurodivergent users. Future versions of these tools could address these needs by offering stronger prompts and taking on more proactive, agentic features.

Provide better suggestions by detecting and learning tone

Some participants felt Gemini could provide unique value by adapting its AI outputs based on a user's tone and style over time. Currently, they felt that the outputs adjusted tone properly, but not in an "authentic" or "exact" way that sounded like the user's desired writing style.

> Tone customization would be big. I don't like having to tell every prompt, 'that's way too businessy,' or 'not businessy enough.'

P04, **External Participant**

Minimize visual clutter wherever possible

Some participants described the current Gemini side panel as cluttered and difficult to use. Some preferred going to the full-width Gemini website/app because there was "more breathing room" when compared to the side panel, which feels difficult to interact with due to its size.

> On the Gemini website, I see the answer pretty much all at once and can interpret the whole response, versus when it's only on a fourth of the screen [like in Workspace products] and I have to keep scrolling and scrolling. It's like I got lost in the scrolling.

P01, **Google Employee**

Enable agentic features that preempt and automate tasks

Many participants expressed how great it would be if their AI tool could learn tone and suggest refinements, or preemptively detect other tasks within a Meet transcription or chat and automatically begin executing on the task, like creating and drafting an email or calendar invite.

> Some of the things that would be a huge time-saver is if one of the action items says: 'Sarah is gonna send a follow-up email recapping the action items.' It would be great if it could help prompt me to say: 'It looks like you need to send a follow-up email with these action items. Would you like me to start that?' And it could just start a draft and take exactly the content that it already has in the notes and prepare an email template.

P10, **Google Employee**

Create multi-modal opportunities for non-text-based comprehension

Multiple participants mentioned how valuable speaking auditory prompts to AI could be for them since typing can be challenging, and processing text felt slower. While this feature is especially important for text-heavy tasks, voice input generally allows neurodivergent users to quickly and easily "brain dump" their thoughts while still producing a cohesive output.

> The stream of thoughts are there, but I can't type them fast enough. It's like, by the time I finish typing a sentence, I've already completed a book in my head. It's really fast. But using a keyboard and mouse can be super frustrating. I've spent a decade learning to type and still have not mastered it.

P27, **Google Employee**

Participants highly valued NotebookLM for its podcast-style audio output to cognitively process text dense documents, heady topics, and work-related readings in a shorter amount of time.

> Especially as it relates to autism and ADHD, I find that my preferred method of consumption is audio. Like, auditorily hearing things is much easier than reading, especially on a screen. So, the audio overview in NotebookLM is an absolute gamechanger for me to summarize long papers I want to read.

P09, **Google Employee**

Users may express the value gained with AI as ‘saving time’, but in reality, they are performing tasks *differently*

Through insights with participants, AI shows not only meaningful time savings by reducing executive function friction, but it’s enabling novel ways of working.

AI-ENABLED OFFLOADING	NEW WAY OF WORKING
Note-taking and transcription for meetings	Perform two tasks (note-taking, meeting engagement) better and simultaneously
Deciphering tone in writing	Enables better communication and deliverables tuned for the right audience
Chunking tasks	Reduces task delay, redistributes time lost to core work
Prioritizing the right information	Frees up mental bandwidth, redistributes time lost to core work

With prolonged AI usage over months or years, it’s possible the transformational aspect of how AI helps users work — versus time savings alone — becomes a bigger value driver as the traditional measure of productivity gains. As GenAI functionality improves and as AI usage becomes more prevalent, conducting longitudinal research studies will become even more critical to fully understand user needs and pain points.

05

Envisioning the Future of Workplace Productivity

Executive functioning challenges, task-switching fatigue, and barriers to productivity impact all of us, not just people with neurodivergence. With the advent of productivity tools supercharged by AI, we have a golden opportunity to design our own digital “curb cuts” that further accelerate existing neurodivergence-supported innovation gains.

Organizations that promote cognitive diversity and inclusion show:

3X

faster problem-solving

HARVARD BUSINESS REVIEW

75%

more likely to see ideas become productized

DELOITTE

87%

more likely to say they make better decisions

DELOITTE

The AI opportunity for business leaders

Thinking beyond the tools, features, and functionality, there is an AI adoption gap that persists for many end users, both neurodiverse and neurotypical. Users can’t capitalize on Gemini in Workspace — or any other AI tool — for their productivity if the capabilities of these tools go beyond what they can conceptualize.

> **I thought [AI] was my enemy, that it was going to destroy this career that I really loved. So far I see it as being like this cool-ass partner who really gets to know my very specific way of doing things... and because of the weird schedule and sometimes the hours, I work late at night, so there have been moments where I just wanted to hug it.**

P15, **External Participant**

Most C-suite executives are currently underestimating the adoption of AI tools already taking place, and aren't enabling the workforce with AI-specific training. C-suite leaders estimate that only 4% of employees use GenAI for at least 30% of their daily work, when in fact that percentage is three times greater, as self-reported by employees.

Forward-thinking executives will bridge this gap by supporting systems and education that lets users capitalize on the value and promise that AI holds for knowledge workers.

47%

of employees agree that a company initiative would increase their use of AI tools

MCKINSEY

25%

of companies are planning to offer training on AI this year, leading to a training deficit

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