Generative AI: Force multiplier for human ambitions

Last year, our team of futurists and researchers decided to use generative artificial intelligence (AI) to create the cover and chapter art in *Tech Trends 2023*. The result was nothing short of spectacular. Yet our exacting design standards required significant human collaboration and intervention in the generation process. On the heels of that successful experiment and the subsequent launch of ChatGPT and ensuing generative AI mania, we decided to explore the use of AI-generated text to help write the introduction of this year's *Tech Trends*. As with last year's artwork, substantial human intervention was required, supporting our point that in the era of artificially intelligent machines, humans are more important than ever.

As someone who's spent a quarter-century up to my eyeballs in all things newfangled, I want to provide some additional perspective on the current excitement around generative AI and frame this breakthrough technology within the context of our enduring macro technology forces.

Tech evolution, business revolution

First, while generative AI feels at once unprecedented and revolutionary, the technology itself is actually a surprisingly straightforward evolution of machine intelligence capabilities that we've been tracking and chronicling since *Tech Trends'* inception. Organizations have employed mechanical muscles (industrial robotics) for nearly 70 years, and mechanical minds (machine learning systems) for the last 25. That our inorganic colleagues can now paint a picture, write a product description, or

sling Python is neither random nor unexpected—they're the next page in a book that future computer scientists might one day call *Cognitive Automation: The Early Years*. Indeed, the best companies have been engaged in this quest to reduce the cost of decision-making for at least the last 15 years (figure 1).

Technologically, generative AI is simply the next chapter in the ongoing history of information. But on the business side, the hyperbole is very much warranted. Make no mistake: The newfound opportunity to augment productive professionals with silicon-based intelligence is indeed a generational business opportunity. It's a full-on paradigm shift that is poised to unlock the doors to altogether-new business opportunities and fundamentally change how the enterprise itself organizes and operates.

You can't shrink your way to success

In my recent experience, far too many business leaders see generative AI as a mere weight loss pill—a quick and dirty means to simply reduce costs by automating and, in turn, eliminating jobs. Nipping and tucking at business cost centers is a short-term approach to pleasing shareholders, taxpayers, and other key constituents—but in the final calculus, you can't shrink your way to success. To be sure, B-school textbooks are rife with cautionary tales of once-great organizations that, seduced by the allure of automation and outsourcing, found themselves leaner, meaner, and, as a result, squarely in the crosshairs of competitors or acquirers.

Instead, generative AI should be considered rocket fuel for elevated ambitions. Virtually every C-level leader I meet tells me, in their own vivid way, how the intensity of their present demands precludes them from paying as much attention as they'd like to future ambitions. "Operations eats innovation for lunch," one chief technology officer (CTO) told me, in a spin on the famous Peter Drucker-ism "Culture eats strategy for breakfast." AI (traditional and generative alike) can free up precious human cycles from mundane operations and allow people to focus, finally, on higher-value work that better aligns with tomorrow's business imperatives—namely, new and improved products, services, experiences, and markets (in other words, the time-tested keys to profitable growth).

Wanted: Generative humans

Many worry that generative AI reduces the need for (or perhaps more accurately, diminishes the worth of) human creativity. I've observed the opposite is true: In an age of creative machines, creative humans matter more than ever.

For example, late last year, I gathered with a room full of C-suite executives to demonstrate a then-new generative AI tool that painted unique images based on text prompts. One of the attendees asked the tool, "Show me a sunset." The resulting picture was fine but unremarkable; the attendee shrugged and dismissed it as "just a sunset." Undeterred, another participant took her turn, prompting the tool, "Show me a war between

Figure 1

A brief history of information

TIME (years)	t–175	t–75	t–50	t–25	t–10	t	t+10	t+n	t=∞
	First computer design	First digital computer	Mid-20th century	Late 20th century	Early 21st century	*Today*	Horizon next	Furthest stars	Endgame
Information	Store	Arithmetic calculation	Relational databases	Descriptive analytics	Predictive analytics	Cognitive automation	Exponential intelligence	General-purpose AI	**Intelligence**

Source: Deloitte Technology Futures Report 2021.

pretzels and cheeseballs on Mars where the pretzels have nunchucks and the cheeseballs have squirt guns." The image generator produced an absurd, delightful image that made the room full of executives applaud and marvel. Most (understandably) celebrated the "miraculous machine" that rendered the image, but I couldn't help but quietly acknowledge the clever human with the magical mix of mind and moxie to even ask for such a thing. With generative AI as a force multiplier for imagination, the future belongs to those who ask better questions and have more exciting ideas to amplify.

As generative machines continue to find purchase in the many nooks and crannies of our professional lives, *people* will determine whether these tools scale with magic or mediocrity. With mindful and imaginative guidance, generative AI stands to unlock a world of magical new business possibilities. Without it, we run the risk of scaled mediocrity—or worse. As my friend and Deloitte's global CTO Bill Briggs likes to say, "Good does not come from making bad things faster."

Eyes to the skies, feet firmly on the ground

Finally—and this is a big one—none of this works without a solid technology foundation. We geeks (ahem, professional technologists) are typically well aware of the old trope "garbage in, garbage out." Our early forays into our shared AI future suggest that going forward, the experience will be more akin to "garbage in, garbage squared." Small biases in training data can beget cataclysmic biases in AI output—so get your enterprise data in order first.

And remember: *Information* is just one of the six macro technology forces that drive business (figure 2).

A creaky core in desperate need of modernization will buckle under tomorrow's AI-fueled workloads. An undifferentiated computation strategy will increasingly break the bank. Cumbersome interaction modalities will muddy your message, to say nothing of disengaged talent, or worse, cyberthreats. If you take anything from this year's report, it's this: Don't become so blinded by the buzz around generative AI that you neglect the five other fundamental forces.

Indeed, AI matters more than ever, but this does not mean that everything else you've been working on suddenly *doesn't*.
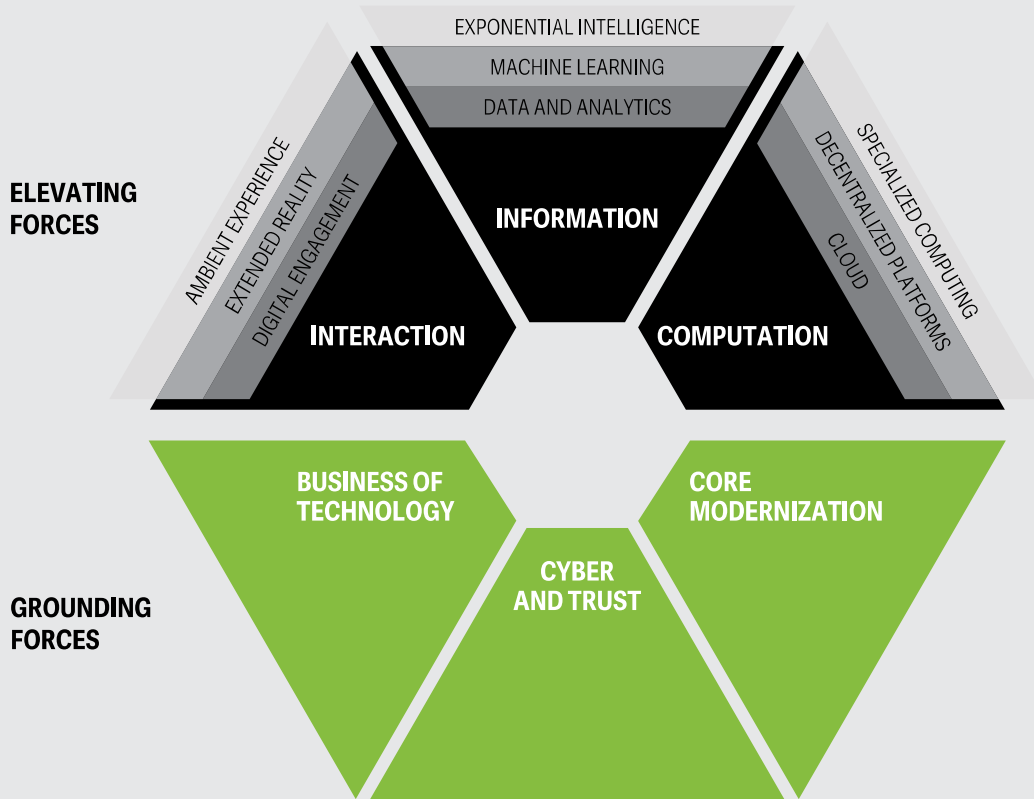
Onward,
~!mb (with a little help from generative AI)

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Figure 2

Six macro forces of information technology

ELEVATING FORCES

EXPONENTIAL INTELLIGENCE
MACHINE LEARNING
DATA AND ANALYTICS

AMBIENT EXPERIENCE
EXTENDED REALITY
DIGITAL ENGAGEMENT

SPECIALIZED COMPUTING
DECENTRALIZED PLATFORMS
CLOUD

INFORMATION

INTERACTION

COMPUTATION

BUSINESS OF TECHNOLOGY

CORE MODERNIZATION

CYBER AND TRUST

GROUNDING FORCES

Source: Deloitte analysis.