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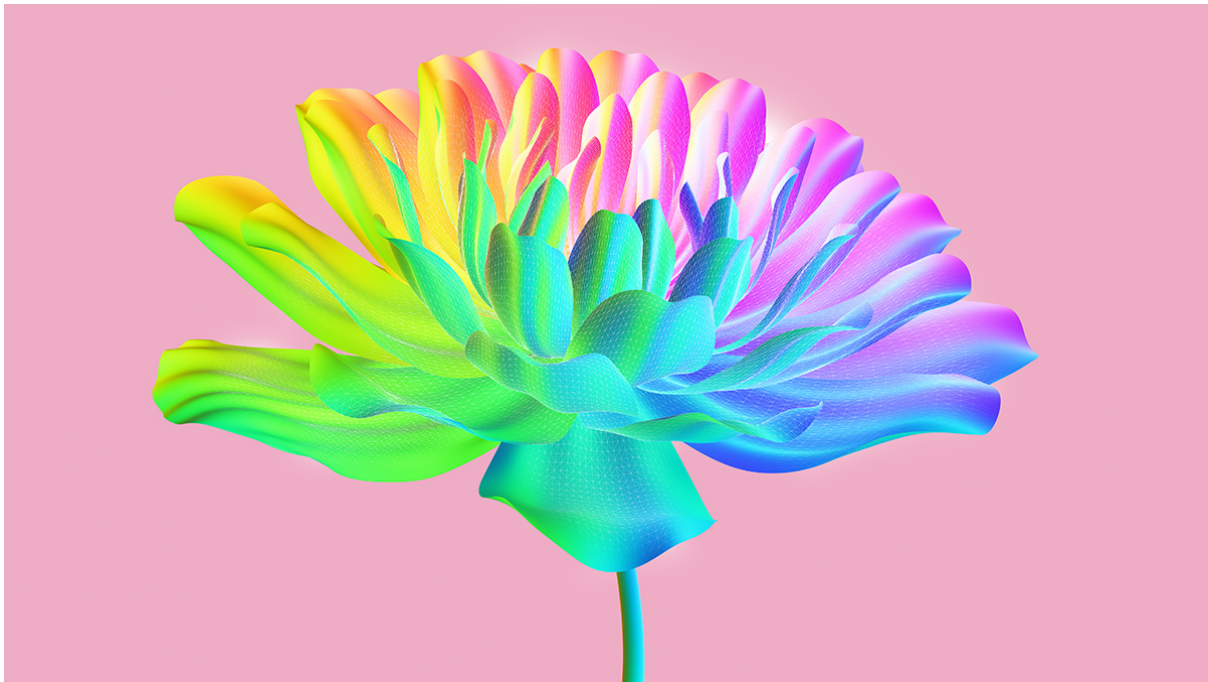
How Generative AI Could Disrupt Creative Work

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Summary.   In the face of technological change, creativity is often held up as a uniquely human quality, less vulnerable to the forces of technological disruption and critical for the future. Today however, generative AI applications such as ChatGPT and Midjourney are threatening to... **more**

The "creator economy" is currently valued at around $14 billion per year. Enabled by new digital channels, independent writers, podcasters, artists, and musicians can connect with audiences

directly to make their own incomes. Internet platforms such as Substack, Flipboard, and Steemit enable individuals not only to create content, but also become independent producers and brand managers of their work. While many kinds of work were being disrupted by new technologies, these platforms offered people new ways to make a living through human creativity.

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In the face of technological change, creativity is often held up as a uniquely human quality, less vulnerable to the forces of technological disruption and critical for the future. Indeed, behavioral researchers even call the skill of creativity a human masterpiece.

Today however, generative AI applications such as ChatGPT and Midjourney are threatening to upend this special status and significantly alter creative work, both independent and salaried. These new generative AI models learn from huge datasets and user feedback, and can produce new content in the form of text, images, and audio or a combination of those. As such, jobs focused on delivering content — writing, creating images, coding, and other jobs that typically require an intensity of knowledge and information — now seem likely to be uniquely affected by generative AI.

What isn't clear yet is what shape this kind of impact will take. We propose three possible — but, importantly, not mutually exclusive — scenarios for how this development might unfold. In doing so, we highlight risks and opportunities, and conclude by offering recommendations for what companies should do today to prepare for this brave new world.

Three Possible Futures

An explosion of AI-assisted innovation

Today, most businesses recognize the importance of adopting AI to promote the efficiency and performance of its human workforce. For example, AI is being used to augment health care professionals' job performance in high-stakes work, advising physicians during surgery and using it as a tool in cancer screenings. It's also being used in customer service, a lower-stakes context. And robotics is used to make warehouses run with greater speed and reliability, as well as reducing costs.

With the arrival of generative AI, we're seeing experiments with augmentation in more creative work. Not quite two years ago, Github introduced Github Copilot, an AI "pair programmer" that aids the human writing code. More recently, designers, filmmakers, and advertising execs have started using image generators such as DALL-E 2. These tools don't require users to be very tech savvy. In fact, most of these applications are so easy to use that even children with elementary-level verbal skills can use them to create content right now. Pretty much everyone can make use of them.

This scenario isn't (necessarily) a threat to people who do creative work. Rather than putting many creators out of work, AI will support humans to do the work they already perform, but simply allowing them to do it with greater speed and efficiency. In this scenario, productivity would rise, as reliance on generative AI tools that use natural language reduces the time and effort required to come up with new ideas or pieces of text. Of course, humans will still have to devote time to possibly correct and edit the newly generated information, but, overall, creative projects should be able to move forward more quickly.

We can already glimpse what such future holds: With reduced barriers to entry, we can expect many more people to engage in creative work. Github's Copilot doesn't replace the human writing code, but it does make coding easier for novices, as they can rely on the knowledge embedded within the model and vast reams of data rather than having to learn everything from scratch themselves. If more people learn "prompt engineering" — the skill of asking the machine the right questions — AI will be able to produce very relevant and meaningful content that humans will only need to edit somewhat before they can put it to use. This higher level of efficiency can be facilitated by having people speak instructions to a computer, via advanced voice-to-text algorithms, which will then be interpreted and executed by an AI like ChatGPT.

The ability to quickly retrieve, contextualize, and easily interpret knowledge may be the most powerful business application of large-language models. A natural language interface combined with a powerful AI algorithm will help humans in coming up more quickly with a larger number of ideas and solutions that they subsequently can experiment with to eventually reveal more and better creative output. Overall, this scenario paints a world of faster innovation where machine augmented human creativity will enable mainly rapid iteration.

Machines monopolize creativity

A second possible scenario is that unfair algorithmic competition and inadequate governance leads to the crowding out of authentic human creativity. Here, human writers, producers, and creators are drowned out by a tsunami of algorithmically generated content, with some talented creators even opting out of the market. If that would happen, then an important question that we need to address is: How will we generate new ideas?

A nascent version of this scenario might already be happening. For example, recent lawsuits against prominent generative AI platforms allege copyright infringement on a massive scale. What makes this issue even more fraught is that intellectual-property laws have not caught up with the technological progress made in the field of AI research. It's quite possible that governments will spend decades fighting over how to balance incentives for technical innovation while retaining incentives for authentic human creation — a route that would be a terrific loss for human creativity.

In this scenario, generative AI significantly changes the incentive structure for creators, and raises risks for businesses and society. If cheaply made generative AI undercuts authentic human content, there's a real risk that innovation will slow down over time as humans make less and less new art and content. Creators are already in intense competition for human attention spans, and this kind of competition — and pressure — will only rise further if there is unlimited content on demand. Extreme content abundance, far beyond what we've seen with any digital disruption to date, will inundate us with noise, and we'll need to find new techniques and strategies to manage the deluge.

This scenario could also mean fundamental changes to what content creation looks like. If production costs fall close to nothing, that opens up the possibility of reaching specific — and often less included — audiences through extreme personalization and versioning. In fact, we expect the pressure to personalize to go up fast as generative AI carries such great potential to satisfy the need to create content that is increasingly representative of the specific consumer. As a case in point, Buzzfeed recently announced it will personalize their content such as quizzes and tailor-made rom-com pitches with OpenAI's tools. (They don't plan to use generative AI in their newsroom, however.)

If the practice of enhanced personalized experiences is applied broadly, then we run the risk to lose the shared experience of watching the same film, reading the same book, and consuming the same news. In that case, it will be easier to create politically divisive viral content, and significant volumes of mis/disinformation, as the average quality of content declines alongside the share of authentic human content. Both would likely worsen filter bubble effects.

Yet even in this relative dystopia, there remains a significant role for humans to make recommendations of existing content in this ecosystem. As in other very large content markets, like music streaming services, curation will become more valuable relative to creation as search costs rise. At the same time, however, high search costs will lock-in existing artists at the expense of new ones, concentrate and bifurcate the market. This will then result in a small handful of established artists dominating the market with a long tail of creators retaining minimal market share.

"Human-made" commands a premium.

The third potential scenario that we could see develop is one where the "techlash" resumes with a focus against algorithmically generated content. One plausible effect of being inundated with synthetic creative outputs is that people will begin to value authentic creativity more again and may be willing to pay a premium for it. While generative models demonstrate remarkable and sometimes emergent capabilities, they suffer from problems with accuracy, frequently producing text that sounds legitimate but is riddled with factual errors and erroneous logic. For obvious reasons, humans might demand greater accuracy from their content providers, and therefore may start to rely more on trusted human sources rather than machine-generated information.

In this scenario, humans maintain a competitive advantage against algorithmic competition. The uniqueness of human creativity including awareness of social and cultural context, both across borders and through time will become important leverage. Culture changes much more quickly than generative algorithms can be trained, so humans maintain a dynamism that algorithms cannot compete against. In fact, it is likely that humans should retain the ability to make significant leaps of creativity, even if algorithmic capabilities improve incrementally.

In the development of this scenario, it follows that political leadership taking action to strengthen governance of information spaces will be needed to deal with the downside risks that could emerge. For instance, content moderation needs are likely to explode as information platforms are overwhelmed with false or misleading content, and therefore require human intervention and carefully designed governance frameworks to counter.

How to Prepare for Generative AI

Creativity has always been a critical pre-requisite to any company's innovation process and hence competitiveness. Not too long ago, the business of creativity was a uniquely human endeavor. However, as we illustrate, with the arrival of generative AI, this is all about to change. So, to be prepared, we need to understand the accompanying threats and challenges. Once we understand what is to change and how, we can prepare for a future where the creativity business will be a function of human–machine collaborations. Below, we provide three recommendations that workers should consider as they adopt generative AI to create business value and profit in today's creative industries.

Prepare for disruption, and not only to your job. Generative AI could be the biggest change in the cost structure of information production since the creation of the printing press in 1439. The

centuries that followed featured rapid innovation, socio-political volatility, and economic disruption across a swathe of industries as the cost of acquiring knowledge and information fell precipitously. We are in the very early stages of the generative AI revolution. We expect the near future therefore to be more volatile than the recent past.

Invest in your ontology. Codifying, digitizing, and structuring the knowledge you create will be a critical value driver in the decades to come. Generative AI and large language models enable knowledge and skills to transmit more easily across teams and business units, accelerating learning and innovation.

Get comfortable talking to AI. As AI becomes a partner in intellectual endeavors, it will increasingly augment the effectivity and creativity of our human intelligence. Knowledge workers therefore will need to learn how to best prompt the machine with instructions to perform their work. Get started today, experimenting with generative AI tools to develop skills in prompt engineering; a prerequisite skill for creative workers in the decade to come.

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With generative AI a major disruptor of our creative work has emerged. Businesses and the world at large will show little patience to apply the new emerging technologies to promote swiftly our level of productivity and content generation. So, be prepared to invest significant time and effort to master the art of creativity in a world dominated by generative AI.

At the same time, we also need to be careful that we seriously consider what these new technologies mean for being a creative human today and how much importance we wish to assign to the role of human authenticity in art and content. In other words, with generative AI at the forefront of our work existence what will

our relationship with creativity be? It was Einstein who said that creativity is intelligence having fun. Creative work is thus also something that brings meaning and emotion to the lives of humans.

From that perspective, businesses and society will be responsible to decide how much of the creative work will ultimately be done by AI and how much by humans. Finding the balance here will be an important challenge when we move ahead with integrating generative AI in our daily work existence.

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