

HUMAN OR AI?: THE NUANCES OF INTELLIGENCE

Thought Leadership

In a new series, Korn Ferry's Amelia Haynes unpacks the complexities of human and AI capabilities. First, understanding the different types of intelligence and how AI mimics the human brain.

News snippets highlight automation hysteria, a presidential commission on emerging technologies and economic progress, and the fear of technology rendering workers obsolete.

No, we're not referring to the AI boom of today... but we could be. Instead, former President Lyndon B. Johnson made all these concerns in an address he gave in 1964. Fast forward to today, where recent breakthroughs in artificial intelligence—particularly, generative AI language models—have sparked heated discussions about the role of technology in the future of work.

Underneath the nervous chatter is a long history of humans and machines interfacing with the workplace. [Post World War II](#), knowledge workers feared "electronic brains" would take over their jobs, while factory workers worried their roles would become obsolete. Recent advancements in AI have only amplified these concerns.

Yet, despite the past 70 years of progress and perturbation, we have not seen this predicted reality play out. While emerging technologies have eliminated certain professions, they have also created entirely new careers. AI systems, after all, depend on human intelligence—and on humans keeping them in check. Understanding these different types of intelligence, then, will help explain the relative capabilities of humans and AI and whether there is a human-like AI in our future.

Defining intelligence

Intelligence exists in various forms. Humans have what we call **General Intelligence (G)**. General intelligence describes our ability to learn, reason, and solve problems across a wide range of domains. General intelligence is what makes it possible for most human 4-year-olds to engage in an infinitely broad range of activities. They can run after a ball, put together a puzzle, answer questions about their day, feel the softness of a puppy, understand when their friends are sad, weigh the relative value of a carrot and a cookie, and be afraid of monsters.

By contrast, **Generative Artificial Intelligence (GenAI)** is the ability of an AI system to generate new material—be it audio, image, or text—from previously trained data. GenAI is the intelligence exhibited by ChatGPT and similar platforms: the sometimes alarming ability to draft a short story in the style of Hemingway, produce a transcript with key takeaways, or create a portrait of you in the style of Georgia O'Keeffe.

Thanks to advances in computing power, the speed at which information can be analyzed and content produced far surpasses that of any human. However, GenAI is a narrow kind of intelligence. It can extrapolate from a massive set of learning data to perform many—but not all—kinds of intellectual human tasks. Unlike the average human 4-year-old, current generative AI tools lack the broad range of basic capabilities general intelligence affords. Platforms built on GenAI are designed to perform a specific task and to do that specific task well (in this case, generating content based on learned patterns). So, while ChatGPT may be better than humans at synthesizing research quickly, it cannot intuit the

subtleties and subtexts of the relationship dynamics at play when your boss says, "That's an interesting topic, let's circle back next month."

Artificial General Intelligence (AGI) describes a conceptual AI system that would be capable of human reason, judgment, and wisdom. In theory, AGI would be able to feel, problem-solve, learn, and perform an immense array of cognitive tasks at a level similar to human capabilities. Critically, AGI would be able to execute meaningful actions and operations without prior feeding of data or prompting by human inputs. But AGI is still just a theory. Although some future AI models come close to AGI's description, they still rely heavily on supplied data and human prompting and have yet to form independent reasoning.

What AI has learned from humans

While GenAI has not reached the level of general intelligence that human beings possess, generative AI models do mimic several specific neural processes exhibited by the human brain:

- **Learning Approaches:** Generative AI models can leverage different learning approaches, including unsupervised or semi-supervised learning for training. Similarly, the human brain learns through both direct guidance (supervised learning) and extrapolating from explicit instruction to unstructured information and applying it to new scenarios (unsupervised learning). In supervised learning situations, a learner is provided with explicitly labeled input-output sets, such as pictures of animals along with the species of those animals. The goal is to learn a function or relationship to accurately predict the correct output for a new input (so, given a new animal, being able to assign the right animal species). By contrast, in an unsupervised learning situation, a person is not provided with explicitly labeled input-output sets. Instead, the goal is for the learner to intuit the underlying relationships between the two and identify similarities and patterns. For example, a learner is given many different pictures of animals, and they learn which fall into the same species category. A learner might be a student in a classroom with a teacher, or in the case of GenAI, an AI system with a developer who feeds the model a training set of many different pictures of animals. The model, then, recognizes patterns and creates categories for each species.

Defining intelligence in an AI-driven world

General Intelligence (G): *The ability to learn, reason, and solve problems across a wide range of domains.*

Generative Artificial Intelligence (GenAI): *Any AI that generates new material, be it audio, image, or text, from previously imputed data.*

Artificial General Intelligence (AGI): *The hypothetical future development of AGI that would be capable of performing any intellectual task that a human can do.*

- **Sequential Data Processing:** Some generative AI models learn context by identifying and tracking relationships in sequential data. In the human brain, information is processed sequentially by neural networks—a system of neurons that are connected in a specific pattern. These networks process sensory information that comes into the brain in sequential order. Neurons in the brain work together to process different parts of the stimulus, passing it through the network. Once all the data is processed, the brain can recognize patterns and make sense of the information. The systems that GenAI uses to process sequential data are modeled after the brain's neural networks. When generating new data, the system processes the input data in sequential order, one piece at a time, until the system can identify patterns and use them to generate a new output.
- **Pattern Recognition:** Generative AI models use neural networks to recognize patterns and structures within existing data sets—like how associations work in the human brain. This is why we know that a snake may be dangerous before we engage with it; we do not have to learn how a snake behaves each time we encounter one. Our brains can establish a pattern that informs our behavior. Generative AI works much the same way and can often use more information than humans to identify even deeper patterns or filter out distracting information. For example, GenAI models might be able to determine what kind of snake it is and know whether it is venomous.

Humans will continue to matter

The differences between humans and AI are not just within the breadth of abilities that humans demonstrate but also in several unique and critical skills that AI tools have yet to exhibit. Current GenAI programs lack consciousness, agency, and emotional intelligence, and do not have systems of ethics, values, and morality. As we continue to

unpack what AI means for work, we should not overlook the intrinsic value of these qualities, which are critical to a healthy world and workplace—and uniquely human.

Despite generative AI not yet reaching AGI and may never be capable of uniquely human skills, it is important to acknowledge that recent developments have rapidly escalated the progress in AI technology. While some argue that we will never reach AGI (and perhaps are no closer to it than we ever were), the stark reality of vastly changing landscapes, adoption rates, and investments in the technology means that its capabilities should not be ignored. Nor should we ignore that humans and their incredible brains have developed these incredible tools. Humans and AI are closely connected and recognizing the complexity—and necessity—of this relationship will enable us to become better users of generative AI. More importantly, however, we will better understand the differences in human and AI capabilities.

3 key takeaways for companies

1. Become more informed users of technology. Understanding the history of automation and artificial intelligence, and how both continue to impact the workplace, will help reduce disproportionate anxieties around the future role of human workers. This can foster a more nuanced, confident approach to embracing AI advancements.
2. Recognize the limitations of generative AI. GenAI is not going to be a silver bullet for business, and there will still be many tasks that will need humans to complete. Understanding the human brain led to the development of GenAI technologies, which goes to show the ongoing value of investing in understanding humans.
3. Look more closely at specific topics and use cases to gain a better understanding of GenAI's strengths and weaknesses compared to humans. Knowing their relative capabilities will be critical to leaders making decisions about how to integrate GenAI into their teams.

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