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Societal Risks and Rewards Associated with Generative AI

"Generative models are changing the way we think about machine intelligence and creativity, and have the potential to transform industries from media to finance to healthcare" (Elias, 2023). These lines about generative artificial intelligence from Oriol Vinyals, a Research Scientist at Google, provide an optimistic outlook on the future potential of AI across all walks of human life, from spheres of creativity to innovation (Elias, 2023). Generative AI is a new technology that can process text prompts and create new content, ranging from high-quality human-like writing audios and visuals (Pavlik, 2023). This extraordinary ability of generative AI allows it to transform industries remarkably and provide new perspectives on current world issues. However, while generative AI has many benefits, there are equally as many dangers accompanying this form of technology that pose serious business risks and can cause large-scale economic and societal disruptions (Pavlik, 2023). Although generative AI promises to redefine all human ecosystems positively, radically altering everyday life to foster better and safer landscapes, it is accompanied by a considerable set of risks and challenges. Thus, it is imperative to find a healthy middle ground to tap into the potential of generative AI without causing damage to the world and its inhabitants.

Although most people may believe generative AI only sprung up in 2022, research surrounding forms of generative AI began in the 1960s. However, few advancements arose before 2006, when Geoffrey Hinton wrote the first-ever paper regarding generative AI entitled "A Fast Learning Algorithm for Deep Belief Nets" (White, 2023). Further, no physical developments arose until 2014, wherein the world witnessed the introduction of GANs by Ian Goodfellow and the launch of transformer architecture. Moreover, in 2022, many forms of generative AI interfaces were released, including DALL-E, an example of an image-producing

platform that can generate photorealistic imagery and edit photos given by the user (Bell, 2023). The release of DALL-E was followed by OpenAI's ChatGPT, which created a large amount of buzz among consumers as it could deliver immediate answers through intricate systems called neural networks (White, 2023). Neural networks are systems composed of artificial neurons that mimic how the human brain operates in order to recognize relationships between large amounts of data (Chen, 2023). These networks allow the handling of more complex data that can be used to create algorithms and, thus, probable responses to prompts expressed through new content. These recent advancements within the field of generative AI have significantly transformed industries with the ability to create instantaneous written material and high-resolution imaging, all while saving time and resources. Consequently, these groundbreaking advancements have influenced higher levels of investments and usage within the field of generative AI and revealed the potential of technology to further revolutionize industries and businesses for the better (What Is Generative AI?, 2023).

Generative AI is a remarkable achievement of humankind that provides numerous benefits to society, ranging from enabling advanced scientific exploration to elevating human potential and optimizing learning techniques and resources (Soon, 2023). Artificial intelligence possesses the ability to accelerate scientific exploration through its capability of identifying relationships between large data sets and, therefore, creating well-supported hypotheses, which can be used to fast forward all scientific innovations and interventions, including drug discovery processes, aiding researchers in all steps of their journey (Soon, 2023). Additionally, generative AI interfaces can elevate human potential as technology performs the required, repetitive tasks, allowing humans to focus on more creative and critical thinking ventures. This allows humans to harness their capabilities, such as fostering innovative artistic expression and promoting deeper

human connections (Soon, 2023). Consequently, this makes generative AI solely a resource for humans to reach their full potential.

In the post-pandemic landscape, the world has also witnessed another exceptional accomplishment of generative AI – its influence on the process of continual learning. Continual learning refers to the collaboration between humans and artificial intelligence that allows humans to work with AI, learn to serve humanity's needs, and effectively address societal problems (Soon, 2023). Generative AI interfaces also have the power to transform the economy, as they can enable labor productivity growth of 0.1 to 0.6 percent annually through 2040. This is feasible as generative AI is significantly more efficient than humans; for instance, generative AI accounts for 60 to 70 percent of employees' time daily, meaning that they complete tasks promptly, making time for employees to complete other detailed aspects of their work that demands creative and innovative solutions that machines are incapable of executing (Chui et al., 2023). Overall, these substantial developments in generative AI will likely lead to the implementation of trillions of dollars into the economy and enormous transformations in the present-day technological landscape, realigning the fundamental working of societies by incorporating generative AI into diverse domains of life.

Alongside the many rewards of generative artificial intelligence in society, there are plenty of risks that may pose significant challenges to industries and society. To illustrate, the harmful effects of generative AI include the amplification of existing social biases, the spreading of misinformation, copyright concerns, and violations of data privacy (Carranza, 2023). As researchers have found out, artificial intelligence solutions amplify existing biases in data, taking information from several websites and unconsciously disseminating those biases to the user. In addition, misinformation is a common problem in generative AI as the creation of vast amounts

of new writing, images, and recordings leads to fake news, referred to as "hallucinations" of artificial intelligence (Carranza, 2023). Juan De Carranza also highlights how this anxiety about the proliferation of fake news leads to false information being provided to individuals, communities, and companies, further disrupting their development and eventually leading to many setbacks and losses in economic and social capital. Another setback in artificial intelligence is copyright and legal exposure, as generative AI interfaces are not accustomed to sharing sources for their data, which can be problematic for businesses if they cannot reference their sources (Lawton, 2023). Lastly, data privacy can be breached through generative AI, as individuals' personally identifiable information can be leaked, which can endanger humans within society.

Apart from these disruptions in the rhythm of everyday life, private and public, several health risks also accompany generative AI, including anxiety, technology addiction, and cyberbullying (Mack, 2023). In recent times, anxiety levels in individuals have risen significantly due to rapid growth and reliance on artificial intelligence (Mack, 2023). The major anxieties of individuals regarding generative AI stem from the fear of losing jobs and employment opportunities being replaced by technological resources. Secondly, increases in technology addiction have spiked due to advancements in generative AI, causing higher addiction to smartphones and, therefore, altering the psychological and social activities of individuals, transpiring into a wide range of issues, including ruptures in human relationships. Finally, according to the Cyberbullying Research Center, generative AI often creates an unhealthy platform of harmful and harassing comments, causing stress and emotional harm to individuals (Mack, 2023). This is significantly alarming as it can lead to further anxiety,

depression, and even self-harm, thus asking us to assess the adverse impacts of the all-pervasive development of AI today to mitigate its dangerous repercussions.

Generative AI must be used ethically and responsibly to find a healthy middle ground between its risks and rewards. To accomplish this, one must first understand the limitations of generative AI in order to decipher ways to improve and maximize its benefits (Kaur, 2023). Secondly, Madelyn Douglas's suggestion of the five pillars for building responsible generative AI can help in the implementation of AI solutions with a fine balance. The first pillar of responsible generative AI is accuracy, meaning the prioritization of truthfulness and verifying information. Then, there is authenticity, wherein platforms must be created to decipher whether the content is human-generated or AI-generated to maintain integrity within society. The third criterion is to examine anti-bias, which prioritizes fairness and human rights and limits legal implications. This is followed by prioritizing privacy, which focuses on achieving data privacy and minimizing data leaks to protect the identity of individuals, enabling them to lead safe and secure lives. Finally, the fifth pillar is transparency, wherein industries must communicate openly with people to maintain trust. Therefore, generative AI is transforming rapidly, and the only way to navigate the challenging changes is to follow the five pillars required for ethically responsible generative AI to find a healthier future for technology (Douglas, 2023).

Generative artificial intelligence is a highly complex technology advancing significantly, transforming industries and businesses at an exponential pace. However, accompanying the many rewards of generative AI are many risks that threaten the safe functioning of society. Therefore, finding a middle ground between the risks and rewards is essential to finding a healthier future. If individuals and companies tap into the potential of generative AI by using it ethically and for the future gain of their communities, rather than using it for harm and

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destruction, we can not only limit the perils of generative AI but also maximize its benefits for the future preservation of society.

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