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Digitalization Inequality in the Age of ChatGPT

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Abstract: We live in the age of digitalization, where Open Artificial Intelligence (OpenAI) tools like ChatGPT epitomize the speed and scope of digital disruption. Never before have humans delegated so much decision-making, communication and knowledge production to AI systems. Generative AI models are now used by nearly three-quarters of the productive workforce in the Western world. AI tools demonstrate the promise of digital innovation that revolutionizes every aspect of human productivity. Practitioners and scientists have also warned about potential ethical downfalls in the wake of a fast AI model generation and adoption by the market. This article concerns potential inequalities in the eye of generative AI. For one, economic advantages are likely to occur in economies that have access to generative AI and foster the adoption broad-based. An already slowbalising world trade trend could thereby be exacerbated and thereby roll back all international development accomplishments that have been made throughout the previous opening of the world in economic trade. For another, Generative AI is favoring positive reinforcement, making it harder for more dry-humored and cynical cultures to survive. Already now, some languages are being abandoned from the repertoire compared to others, given the relatively more frequent use of negative connotations and negative reinforcement, as well as thumb-down button pushing, which cynically promotes negativity. Cultural warfare could be waged by certain cultures trying to eradicate other cultures or algorithms being trained to send negative signals in certain discussion silos in order to make them being pushed down and abandoned in the digital evolution age. Lastly, Large Language Models (LLMs) being the gist of OpenAI sparks the concern over replication of given ideas and reiteration of the common body of knowledge. ChatGPT may erode human ingenuity and intelligence formation, as well as creative new content creation, by just reiterating what is already known. This may make human creativity more precious in the long run and create job opportunities for those who contest ChatGPT and refine it with the human ingenuity touch or the creative edge replication misses. The discussion ends with clear guidelines on how to overcome the raised OpenAI challenges.

Keywords: Artificial Intelligence (AI), behavioral economics, behavioral insights, digitalization, digi-disruption, economic growth, market disruption, public policy, teaching, technology, technological changes

Introduction

Generative Pre-trained Transformer models are the basis of OpenAI, the technology behind ChatGPT. ChatGPT started in late 2022 and fine-tuned specifically for dialogue using a technique called Reinforcement Learning from Human Feedback (RLHF). ChatGPT became a sensation almost overnight because of its capabilities to form human-like conversations coupled with sophisticated big data compilation power. ChatGPT is now encroaching all domains of human decision making and task accomplishment in almost all everyday life choices and operations. While we were 'googling' information in the last decades, to 'chatGPT' has become the new trendy verb for describing the help of ChatGPT in our lives on a constant basis. Human conversation is also shifting in a direction to speak like ChatGPT answers and prompts.

In the overall excitement about ChatGPT's potential and enormous growth capabilities, the attention to downsides and potential risks of ChatGPT is less given. Technical dependencies and hegemonies of algorithms are noted as is the fear raised of losing control over a growing web of digitalized decision making tools. Privacy concerns as well as psychological aspects, such as critical thinking and learning impairments, are noted.

In all the hesitancy mentioned over ChatGPT, digital inequality is fairly less addressed and covered. Digital inequality, however, appears as an overlooked by-product of innovation and must be understood through behavioral economics, macroeconomics, comparative law

and international policy analysis. While inequality has long been studied in economics, law, and history, very little attention has been paid to the inequalities embedded within digitalization itself, and particular newest societal developments due to ChatGPT.

This article will address three potential areas of inequality related to generative AI and ChatGPT. For one, economic advantages will arise in those countries, segments and individuals, who are willing to embark on a large-scale ChatGPT adoption in relation to those who may not be able or ready to use ChatGPT on a large scale. For instance, connectivity problems but also regulatory landscapes will likely determine where a nation, society or individual will fall on the adoption to negation spectrum. This may have negative disadvantageous effects for whole nation states, societal segments and industries, as well as individual lives.

The way the current Generative AI models are selecting information to evolve entails, for one, personal information that may later be questioned about how it was obtained in the ChatGPT rush. Already now evidence exists that ChatGPT is more accurate than any other search engine on peculiar languages and language use, making it plausible that private conversation was used to generate the LLM. For instance, peculiar dialects that are not very common on standard search engines, like certain Māori dialects or Moroccan regional languages are way better represented on ChatGPT than previous search tools would replicate. This breeds the assumption that privacy-infringing big data reaping occurs to feed the LLM underlying ChatGPT. In addition, the LLMs being trained to favor positive information and create silos of positive reinforcement make certain languages disappear from ChatGPT in relation to others that get pushed up and created as favorable content. If this gets noticed as a competitive advantage, as in previous negative Search Engine Disoptimization, ChatGPT could become misused for cultural warfare and the systemic eradication of knowledge and cultural heritage.

Lastly, Large Language Models (LLMs) may crowd out human ingenuity and knowledge development through passivity and entertainment taking over human decision power. For those who use ChatGPT wisely, such as Socratic challenging the given information or adding insights with a human touch to ChatGPT outputs will likely be in higher demand than those who ignore LLMs or use ChatGPT unreflectedly. Educators around the world should pay attention to Socratic challenging ChatGPT and making it a tool to educate elegantly reflection and public communication skills.

The article is structured as follows: First, an introduction to LLMs, OpenAI and ChatGPT is given. Second, the gap of inequality research in the age of digitalization is outlined. Third, three areas of potential inequality arising in ChatGPT will be mentioned: Access to ChatGPT use and advantages may be stratified; ChatGPT as an evolutionary concept may draw from data that is infringing privacy and may push down unfavorable content, making errors and creative endeavors less likely to survive. This digital eugenics may have implications for human creativity valuation and nurture a call against discrimination of creativity and for a reflective use of AI. The discussion provides guidelines on how to react to close lurking ChatGPT inequality gaps with technology advancements, regulatory aid and direct interventions.

ChatGPT

OpenAI is a revolutionary technology that massively transforms our information search and interaction with intelligent computer functions. ChatGPT is an AI computer program designed to talk with people in natural, flowing language to help on everyday task. Based on LLMs and machine learning called a Generative Pre-trained Transformer (GPT), ChatGPT amalgamates the most extensive amount of data so far for conversational pilots and estimates the likelihood of one word following another to reproduce an answer. ChatGPT has the most sophisticated potential to generate text that is grammatically correct, but also context-aware, adaptive and culturally-

sensitive. Since 2018 and rolled out on a massive scale at the end of 2022, billions parameters including writing essays, code, poetry and human-like conversations can be fed into, tested for and generated by ChatGPT. In order to be selective on content to be positive and of uplifting quality, ChatGPT was fine-tuned for conversations based on human empathy. During 2024 to 2025, ChatGPT strengthened in memory to constantly remember facts about users over time and multimodal abilities handling text, images, and even voice.

While ChatGPT constantly updates itself, fine-tuning conversations are refined where human trainers teach the algorithm better ways to respond. Estimations range around more than 70 up to 80% of the algorithm of ChatGPT is targeted at filtering out negative content and endorsing positive one as well as adopting the answer to human empathy and care levels. ChatGPT uses reinforcement learning to further improve through feedback loops. Iterative approaches help ChatGPT to learn to provide helpful and/or satisfying content. ChatGPT is thereby influenced by the most likely and contextually appropriate responses. ChatGPT still expands its core competencies ranging from answering questions, creative writing, language translation and summarization, coding help, tutoring, studying and professional administrative business support. Used by a broad variety of nations and societal strata throughout all age and income classes, ChatGPT serves a customer base from a broad variety of populations. Strengthening the human-computer interaction, ChatGPT makes information and communication more accessible, creative work more collaborative and productivity tools more powerful.

AI-induced inequalities

AI is currently encroaching the workplace and every aspect of human lives (Kelly 2025). The AI market transformation is driven by rapid advancements in machine learning, increased data availability and growing demand across the globe. While successfully taking over simple repetitive tasks in the labor force, OpenAI has the potential to replace human decision making large scale, but creativity and emotional passion are believed to remain a prerogative of humans (Wingate, Burns & Barney 2025).

According to a report by Grand View Research (2023), the global AI market size was valued at USD 136.6 billion in 2022 and is expected to expand at a compound annual growth rate (CAGR) of 37.3% from 2023 to 2030. The proliferation of AI applications in the last 2-3 years illustrates its disruptive revolution and the likely long-term impact of OpenAI on the global economy (McKinsey & Company 2023). These developments are not only reshaping competitive landscapes but also prompting discussions on ethics, regulation and workforce adaptation in the AI-driven era.

Inequality is one of the most significant pressing concerns of our times. Ample evidence exists in economics, law and historical studies that multiple levels of inequality dominate the current socio-dynamics, politics and living conditions around the world. Social inequality stretches from within nation states to global dimensions but also intergenerational inequality levels.

While digitalization and inequality are predominant features of our times, hardly any information exists on the inequality inherent in digitalization with special attention to ChatGPT. Theoretically arguing for inequality being an overlooked by-product of innovative change, the following part will feature insights on digitalization-infused inequalities in the ChatGPT domain.

ChatGPT-adoption and use inequalities

Research on digitalization and inequality exists, yet remains individualized into two fields. For instance, groundbreaking insights were generated from Thomas Piketty's 'Capital in the 21st century' (2014). According to the Capital in the 21st Century book, wealth and income inequality in Europe and the United States have risen steadily since the 18th century. The book has its clear

merits in providing a trenchant analysis of the most comprehensive dataset on international wealth inequality over time. At the time of its publication, the book was a wake-up call for policymakers and governance leaders but also the wider public to realize wealth inequality around the globe having reached a record high. While the book incepted ample research interests in inequality, most accounts remained in the financial domain backed by quantitative accounts (e.g., see the work of Joseph Stiglitz and Branko Milanović). Lastly, it is a foremost backward-looking historical account of the evolution of wealth inequality. Piketty's Capital only provides a brief forward-looking solution in deriving from history that only war and taxation appear as historically-validated global solutions to alleviate wealth inequality. While the first option, war, appears critical and unrealistic from many perspectives – such as the humanitarian, societal and economic aspects of war – the second solution's feasibility in taxation was undermined in the last decade, foremost in revealing information about tax evasion, which was vividly underlined in the Panama Papers, but also the European Union lacking a fiscal pact or fiscal union to this day. Digitalization is not mentioned specifically and would be out of the scope of the opus magnum focused on wealth and income inequality.

Digital inequality now combines the ideas of digitalization and inequality in a novel way. The concept of digitalization having an impact on societal disparities has risen in the aftermath of the COVID-19 pandemic, when digitalization was pushed on all accounts during the lockdown phase. In a more recent account, research on digital in equality in the age of ChatGPT now comprises of access, information, efficiency and dignity. First, access is differentiated to ChatGPT around the world and within society. Those who will have access to ChatGPT early on and will be able to embark on OpenAI learnings, will certainly have a competitive advantage. This also holds for nation states adopting OpenAI becoming more efficient and thereby gaining a comparative advantage. Those early adopters will feature economies of the future that have the necessary infrastructure to train people in all sorts of ChatGPT applications and uses in place.

When it comes to information, the question arises how to make sense of ChatGPT information. Those institutions and industries that promote a meaningful and reflected adoption of ChatGPT are expected to have a competitive advantage. Literature is emerging on the importance of making sense of big amounts of data and finding algorithms that condense the gist out of any large amount of complex interactions recorded. Big data storage centers are mushrooming, especially in the US, and causing environmental burden, which will be borne by future generations. When it comes to big data, data fiduciary has been discussed as a quasi-protection from data insights being turned against the creators. Shedding light on these multifaceted inequality layers prepares for providing innovative policy solutions.

Viktor Mayer-Schönberger's (2009) book *Delete* paved an early way for attention to inequality in the digital age. Resulting in an understanding of the importance of the 'Right to Delete/be Forgotten' was an early account of data protection in the digital age. The world, however, has turned in favor of the main argument of the book – that individuals can request a deletion of information online, especially in the European context. In its larger impetus, the book alerted readers early on to the need for vigilance on digital technology being used against privacy-protected areas and shed light at some—back then—unanticipated consequences of the digital instant communication age.

While the written word has made it possible for humans to remember across generations and time ever since writing existed, yet now with ChatGPT allowing for long-term sophisticated revival of the past on a constant and global basis to be transported to future generations in the most engaging way ever, may freeze time more vividly than ever before in the history of modern digitalization. While Mayer-Schönberger (2009) already alerted on an everlasting digital memory, the time has come to draw attention to progress and the need to forget to give way to new ideas and modi operandi. With a too vividly engaging focus on a wealth of knowledge collection of the past, we may hinder future progress and development.

Outdated information packaged easily accessible may create problems of getting stuck in this generation. While Mayer-Schönberger's (2009) fix was an expiration dates on information and legally enforceable 'rights to delete and be forgotten,' the age of ChatGPT may warrant a catalyst that phases in human new progress automatically into knowledge generation, once the algorithm is more sophisticated.

Digital inequality should thereby also embrace eternal digitalization threats that are larger than just big data. For instance, covering artificial intelligence, 5G, the internet of things, robotics and supercomputers would also need to be implanted into a strategy to conserve knowledge without hindering the adoption of new ideas and making space for change. Acknowledging that digitalization is an innovation that constantly evolves, one should hold the most novel angles to where digitalization stands today and may naturally add to the existing literature a fresh spin. So while creating a historic landmark account of our contemporary world with OpenAI to be conserved for future generations, space must also be made for new ideas and novel ways of doing things given attention, room and their moment in time.

ChatGPT-evolution inequalities

When it comes to labor market related inequalities due to OpenAI, one can say that international organizations and intragovernmental bodies are closely monitoring the digitalization impact on a global scale. International Organizations and Global Governance institutions primarily focus on digitalization disruption in the 21st century with legal, economic and regulatory status reports of digitalization, which is currently developing in jurisdictions and economies worldwide. For instance, the United Nations (UN) agencies and regional organizations descriptively report internationally-varying current guidelines, ethics codes and action statements regarding the digitalization disruption part. The UN is the leading authority on sustainable development, which is targeted by the 2015-incepted Sustainable Development Goals. Strikingly, none of these global goals directly addresses digitalization and the benefits efficient market transitions can hold for economically-empowered development. Information and Communication Technology (ICT) is mentioned here and there, but is not addressed in a descriptive way, simply describing the state-of-the-art after the industry development. The United Nations has been criticized by practitioners to have a backwards-looking approach. Regulators have voiced that the UN reporting lacks any forward-looking market-relevant innovation discourse on digitalization.

The United Nations also opened a Centre on Artificial Intelligence and Robotics within the UN system in The Hague, The Netherlands, in 2017. The International Telecommunication Union worked with more than 25 UN agencies to stage the "AI for Good" Global Summit. The UNESCO has launched a global dialogue on the ethics of AI due to its complexity and impact on society and humanity. The OECD hosted a Council on Artificial Intelligence in the first half of 2019 to set international AI standards on a global level. In 2017 the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) created a joint technical committee to develop IT standards for business and AI consumer applications. Labor unions have also defined critical principles for ethical AI. The United States Library of Congress has comparative e-content and reports on the use of AI in various domains, for instance, healthcare, currency and data management.

While all these reports include contemporary accounts of AI, they lack a clear focus on the downsides of digitalization in creating and exacerbating inequality. All these reports and efforts are different and important, but they hold a limited view on the role of inequality in digitalization. None of the agencies, reports or efforts are covering ethics of digitalization, and no account exists on an analysis of the societal downfalls of innovation if access is restricted.

When it comes to digitalization inequalities and labor markets feeding into economic growth, economic advantages are likely to occur in economies that have access to generative AI and foster the adoption broad-based. An already slowbalising world trade trend could thereby be exacerbated and roll back all international development accomplishments that have been made throughout the previous opening of the world in economic trade.

Digital inequality research should draw from macroeconomic research to portray AI and healthcare and anti-corruption as a future prerequisite of responsible access to markets, finance and societal welfare. As such, the research could feature international examples but also the wide range of disciplines (such as economics, labor studies, but also medicine, psychology, business, public administration and law) and capture digital inequality from an orthodox but also from a heterodox viewpoint. Research on digital inequality should be data driven and only feature descriptive content to a limited extent. Further, the insights should be scientifically-informed but written in an easily-understandable way that engages students, practitioners and the general public in order to nurture a wide-reaching awareness for a broad set of multiple digitalization stakeholders. In its entirety, research could aim at breaking the most innovative ground to establish the importance of law and economics for the regulation of a complex and wide-reaching market transition of our lifetimes. The solutions should thereby be less descriptive but rather more practitioner-focused and policy oriented. Data-driven results will be offered for a self-determined policy analysis.

Most recently, the COVID-19 pandemic revolutionized digitalization but also opened eyes to social injustices around the world. Today the most pressing question of our time is how to use digital innovation to make the world more equitable and align digital efficiency with justice and fairness. No international publication exists to this date about the most novel facets of digital inequality around the world, such as the upcoming 5G revolution, digital warfare, COVID-19 Long Haulers' relief through digitalization but also rights to not be forgotten given algorithmic creation of big data insights from private conversations.

Digitalization inequality could connect all these dots and could serve as a unique historic landmark to capture our contemporary digitalization disruption moment in time but also offer ways to harvest the benefits of innovation ethically and sustainably with respect for inequality aspects.Research could feature a truly international angle of access to digitalization innovation benefits worldwide and offer the first and most needed account of digital social justice as ennobling excellence. In all of this, research could provide an international economic law perspective, which is missing in the market on digitalization and inequality academic research, practitioners' manuals and global governance reports.

Examples for practical solutions in digital inequality research could be to curb generative AI in favoring positive reinforcement, making it harder for more dry-humored and cynical cultures to survive. Already now some languages are getting abandoned from the repertoire compared to others given the relative more often use of negative connotations and negative reinforcement thumb-down button. For instance, Slavic languages that use a more dry humor and cynical are less popular on ChatGPT and therefore do not influence the entire database as vividly as light-hearted languages and bloomy content. Cultural warfare could be waged by certain cultures trying to eradicate other cultures or algorithms being trained to send negative signals in certain discussion silos in order to make them being pushed down and abandoned in the digital evolution age. As clear action items, international organizations could request transparency in the generation of ChatGPT – first for ensuring that information is reaped in a legally-sound way and not infringe on privacy and data protection ethics. Second, international organizations could make an international law-driven stance for attention to discrimination alleviation. ChatGPT being an internationally-accessible platform should give an equal chance to every language and dialect to be conserved, flourish and prosper.

ChatGPT-crowding out humanness inequalities

Large Language Models (LLMs), which form the core of OpenAI's technologies, raise important concerns about the replication of ideas and the reiteration of existing knowledge. Since these models are trained on vast corpora of preexisting text, their outputs often mirror established discourses rather than generating genuinely novel content. A recent study found that while ChatGPT produces a high volume of ideas, these ideas cluster around similar concepts and lack originality compared to human-only brainstorming sessions (Morrone 2025). Complementary evidence from MIT's Media Lab indicates that individuals using ChatGPT exhibited reduced neural engagement and produced formulaic, less creative essays, compared to groups using search tools or no digital aid (Chow 2025).

These developments spark fears that ChatGPT and similar systems may erode human ingenuity, particularly in fields where original thought and creativity are paramount. However, this very limitation could, paradoxically, make human creativity more valuable in the long run. The ability to think beyond patterns, to innovate conceptually, and to infuse ideas with cultural, emotional or experiential nuance remains uniquely human. As such, opportunities may arise for individuals who position themselves not in opposition to LLMs, but in complement to them—adding the creative edge, critical refinement and originality that algorithmic replication inherently misses. So LLMs may enhance the incentive structure for humans to think with creativity and a 'human' emotional touch. Value may be found in human fallibility and natural human ways of communication.

Furthermore, empirical research has confirmed that LLM assistance may boost creativity during assisted tasks but hinder independent creative performance later, demonstrating a homogenization effect that persists even after AI is no longer used (Fadelli 2024; Kumar, Vincentius, Jordan, Anderson 2024). Philosophical critique further argues that LLMs lack essential qualities of creativity—namely intentionality and subjective experience—and therefore cannot replicate genuinely human innovation.

Overall, ChatGPT and OpenAI raise risks of diminishing human creative capabilities by constraining divergent thinking and reducing novel outcomes. This underscores the enduring value of human ingenuity—not just as a cultural asset, but as a critical differentiator in intellectual production.

Consequently, the future of creativity may lie in human–AI collaboration models that leverage LLM efficiency while promoting human originality and intentionality. Such models must be designed to avoid overreliance and enable users to remain thoughtful, critical, and imaginative—even in a world of increasingly capable AI.

Discussion

Proposed future research could be dedicated to the novel connection between digitalization and inequality worldwide. Research could also present a range of innovative and unprecedented empirical insights that have direct implications for academics from multiple fields, global governance officials, innovation catalysts and policymakers around the globe.

Direct leadership and followership implications for using novel technologies daily to improve individual lives, group dynamics and global governance should be worked on. First international nuances of digital inequality from qualitative and quantitative viewpoints could be investigated. Future outlook on the digitalization workplace revolution and implications for international trade and development should also become subject to scrutiny. First account of the emerging field of Behavioral Law & Economics in digitalization contexts could be fortified with practical examples on digital inequality. Historic landmark in innovation management of global digitalization could also reflect a concerted world effort to improve society in regards to novel and unknown facets of inequality together. Monitoring and evaluation of the current digitalization should thereby be pegged to social, economic and environmental causes. A multifaceted analysis will draw a contemporary digital inequality

account from behavioral economic, macroeconomic, comparative and legal economic perspectives. Innovation-inherent inequalities thereby also reveal novel facets of inequality that are particular to digitalization.

Overall, research should include a positive perspective of digitalization innovations but also feature a deeper theoretical system critique and highlight the societal implications of inequality. Macroeconomic results but also a more internationally-comparative analysis will round up the research extension in order to face the ChatGPT revolution wisely and conscientiously and with a human touch.

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