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Big Tech Versus the Common Good

Pathologies of the Technology Race for Artificial Intelligence

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ABOUT THIS PAPER

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The Weizenbaum Institute is a joint project funded by the German Federal Ministry of Research, Technology and Space (BMFTR) and the State of Berlin. It conducts interdisciplinary and basic research on the digital transformation of society and provides evidence- and value-based options for action in order to shape digitalization in a sustainable, self-determined and responsible manner.

Weizenbaum Discussion Paper

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Abstract

The technology race for artificial intelligence has produced pathologies that are characterized by the dominance of a handful of powerful players and strong information and power asymmetries. Platform companies act as gatekeepers for digital infrastructures and knowledge. In the race for AI market leadership, their extensive access to data and computing capacities increases the **concentration of power** among tech corporations and puts smaller players at a disadvantage. Wealth and technological power are concentrated in the hands of a few, while many remain excluded from the opportunities of AI-supported value creation. **Global and social disparities** are widening. A widespread use of strong AI in professional and private contexts will also be associated with rapidly increasing **consumption of energy, water and non-renewable resources** unless solutions to conserve resources are consistently taken into account. However, the primary goals of AI development are market dominance and profit maximization: ecological, social and ethical aspects are put on the back burner. This prevents AI from being consistently **oriented towards the common good**, a goal which is surely necessary for such a far-reaching technological revolution. Digital infrastructures, especially in the field of AI, are characterized by **technological dependencies**. In **geopolitically volatile times**, the associated risks are exacerbated, as political actors have the ability to restrict access to essential infrastructures or to attach conditions to them. In addition, language models can be used in a targeted manner to influence public discourse. Language models shape what is visible and sayable, what knowledge is disseminated and how it is evaluated. The specific way in which models do this also reflects the political inclinations of their developers. This creates the **potential for manipulation**. It is clear that there is a lack of **democratic negotiation** on the use of generative AI.

Key Policy Recommendations

Political leverage in the distribution issue

- Strategic industrial policy with a focus on international partnerships
- Investments in public welfare-oriented alternatives
- Broad access to data, computing power and open-source AI

Political leverage in the governance issue

- Development of public LLMs and platform alternatives
- Enforcement of strict criteria for product approval and risk assessment
- Comprehensive transparency standards on data curation and content moderation
- Rigorous enforcement of existing digital laws.

Political leverage in the sustainability issue

- Funding of energy-efficient AI architectures and digital sufficiency
- Transparency on resource consumption, CO2 emissions and e-waste
- Development of standardized metrics for the ecological footprint

Content

1 Introduction

Generative artificial intelligence (GAI) has developed from an abstract vision of the future to a promising key technology in a very short time span. Its spread is not only rapid, but also has far-reaching structural consequences. Companies are reorganizing operational processes and employees are grappling with new skills requirements and changing job profiles. The development of large language models (LLMs), in particular, marks a technological upheaval, as a result of which knowledge work is being reorganized. At the same time, new dependencies on the providers of lucrative key technologies are emerging and the global race for technological leadership is intensifying. Currently, powerful economic and political players from the USA dominate technology development and applications. They prioritize profit over the common good and their business models are in many respects based on the appropriation of collective knowledge and value added by other actors.

The powerful position of these tech companies has become firmly established in many areas and dominates technological design processes. Ultimately, however, these processes are still being formed. Generative AI – a technology that is associated with far-reaching effects on the world of work and whose design is therefore all the more important – is still at an early stage of development. Positively framed, this situation can therefore be understood as a unique opportunity to set the course for future technological and infrastructural developments. It presents a valuable opportunity, if not a social responsibility, to shape the development of AI according to objectives that are oriented towards the common good. The way in which the AI-supported digital economy has developed so far points to key areas of action: fair participation, democratic control, digital sovereignty and the sustainable design of technical systems.

2 Generative AI Marks a New Phase of Data-Based Value Creation

GAI marks a new stage of development in the digital economy. On the one hand, it accelerates and deepens data-based value creation, and on the other, it provides qualitatively new tools for the extraction and exploitation of collective knowledge. This opens up a new stage in the technology race among tech companies, because those who can build and capitalize the strongest language models will be able to take and maintain a leading position in the digital economy.

At the heart of the digital economy is the raw material of data, which is not a natural, freely available commodity, but a social product. Its creation, structuring and utilization is the result of social interactions and human knowledge work, technical infrastructures and organizational settings. The development of AI is usually based on the appropriation of such data by companies. Using vast computing capacities, deep neural networks are trained with the acquired data; accordingly, the availability of modern data centers and cloud infrastructures is a necessary

prerequisite and a decisive competitive factor for the AI economy. Tech companies such as Alphabet, Meta and Amazon play a central role here for four reasons:

Firstly, platform companies gain broad, exclusive access to the massive amounts of data that people leave behind when using their services. This data supremacy is linked to their fundamental business model, which is essentially based on the extraction, aggregation and interpretation of user data. The data can be lucratively exploited in a variety of ways, for example, to train large language models, where the availability of large, diverse data sets is a decisive competitive advantage.

However, usage data is neither sufficient in quantity nor specific enough for the development of universally applicable language models. Secondly, therefore, in order to make language models versatile and to equip them with diverse, reliable knowledge, tech companies need to map and integrate the most comprehensive knowledge bases possible, often in disregard of copyright restrictions.

Thirdly, in addition to data, immense computing capacities, guaranteed by the availability of high-performance data centers, are crucial. These are also operated to a considerable extent by the hyperscalers like Amazon and Microsoft. The technical and economic interdependence of AI with cloud-based infrastructure thus further increases the dependence on a few dominant companies – an infrastructural asymmetry that further cements the powerful position of tech companies.

Fourthly, platform offerings are also the main channels for the distribution of generative AI applications. The technology is integrated into numerous products – operating systems, office software, creative software, developer tools and social networks. By integrating GAI in this way, platforms remain attractive and at the same time become central hubs for its use. Their distribution power translates into a stronger bond with their users, for whom their services become increasingly indispensable. Through these mechanisms, the platforms secure long-term competitive advantages and an early, comprehensive absorption of the AI rent. This is illustrated by a recent survey[1], which found that despite explicit concerns about the growing dependence on individual tech companies, German business leaders overwhelmingly continue to rely on partnerships with hyperscalers like Microsoft, Google and Amazon when implementing AI technologies.

There is fierce competition in the field of generative AI, with big tech companies vying for the most powerful AI models, e.g., ChatGPT (OpenAI, Microsoft), Gemini (Google), Claude (Anthropic, Amazon, Google stake), LLaMA (Meta), Grok (xAI) and, most recently, the Chinese start-up DeepSeek. The success and reach of their offerings now largely depend on the extent to which they are able to train LLMs as extensively as possible and integrate them into as many software landscapes and platforms as possible. At the same time, however, their position is also volatile insofar as a delay in development could also result in the loss of their market position and significant shares of the value chain. This explains the speed at which the development of AI models is currently being driven forward and the way in which this is taking place.

1 KMPG AG (2025) „Generative KI in der deutschen Wirtschaft 2025“ https://kpmg.com/de/de/home/themen/2025/04/studie-generative-ki-in-der-deutschen-wirtschaft-2025.html

3 Geo-Economic Consequences: The Pathologies of the Race

The technological lead in the development and operation of powerful AI models is increasingly becoming a strategic competitive factor. Thus, the race for AI has long since become a geopolitical test of strength. The key economic role of AI also gives rise to new political dependencies, with key areas of geo-economic competition in the control of central digital infrastructures and relevant resources, such as data, raw materials, components, skilled workers and patents. As leading regions in AI development, the US and China are investing strategically in the development of data centers, chip production and research, while at the same time attempting to gain strategic advantages and prevent transfer of knowledge by means of trade barriers and technology restrictions. Control over digital infrastructures also plays an important military role. As a result, an increasing narrative shift from techno-globalism to techno-nationalism can now also be observed in the EU. Technology development is increasingly shaped by national power interests and is simultaneously seen as a decisive factor for national security and economic stability. Three pathologies are associated with the global race for AI leadership:

3.1. GAI development is capital- and knowledge-intensive – and therefore unequal

GAI development is currently concentrated in just a few regions and companies. Access to computing power, data and highly qualified knowledge workers are structural prerequisites for harnessing the commercial benefits of AI. Large platform companies such as Amazon, Microsoft, OpenAI, Meta and Alphabet in the US and their Chinese counterparts Baidu, Alibaba, Tencent, Huawei and DeepSeek have the necessary resources to actively participate in the global race for technological leadership in the field of artificial intelligence. This reinforces social and regional disparities. Europe is lagging behind in AI development and the Global South remains largely excluded. Existing dependencies on the offerings of large tech companies could thus be exacerbated. Amazon Web Services (AWS) and Microsoft Azure already dominate the business of cloud infrastructures and their associated cloud services and thus earn money from the productivity gains of their users. The more AI applications become the basis for value creation in various industries, the more the large cloud providers, who have long dominated AI development anyway and are the only ones who can provide the necessary computing capacity for training the models, benefit. In this way, they are further extending their competitive advantage.

3.2. Generative AI transforms knowledge work and knowledge organization

GAI is fundamentally transforming knowledge work. Large language models are used in various areas of knowledge work and in the professional fields in which they are applied they open up new scopes of action, simplify routine activities and expand the range of creative and analytical tasks. This is accompanied by new skills requirements, particularly in prompt engineering, in the critical evaluation of machine-generated content and in the contextualization, quality control and post-processing of results. Generative AI is becoming an important foundation of knowledge work.[2]

At the same time, the diffusion of generative AI is closely linked to questions of processing and organizing knowledge. Large language models are not just tools but also infrastructural instances of knowledge production: they influence what becomes visible and what content is considered valid. As statistical models, language models reconstruct concepts and language patterns that they have learned in training data. However, they primarily draw on the most likely manifestations, which means that the opinions and perceptions of marginalized groups of people become less visible, while common stereotypes and biases (racism, sexism, etc.) from the training data are regularly perpetuated in the generated results. The data basis on which large language models are trained is compiled by the developers and is not made publicly accessible. This renders quality controls impossible and makes it difficult for the authors of legally protected works to check whether they have been illegally included or appropriated in the training data.

Furthermore, the few dominant market players not only decide what knowledge is processed but also how content is moderated and who gets access to it and under what conditions. This concentration of technical, economic and epistemic power leads to a profound asymmetry in the digital knowledge economy.

This creates problems of manipulation – should we trust a US or Chinese AI? With Grok, Elon Musk is pushing ahead with the development of an AI in which content is no longer moderated according to democratic standards. According to his own statement, it is an AI that is trained to be anti-woke, i.e., it is explicitly trained with propagandistic, at times racist content[3]. There are already political shades within various AI systems today, and these could possibly become even more pronounced in the future. This suggests a substantial potential for manipulation if users read the generated results of an AI as truthful interpretations of the world's knowledge, although, to a not insignificant extent, the answers of an AI model reflect the assumptions, interpretations and priorities of its developers. The European AI Act at least obliges the providers of generative AI applications to publish summaries of used data sources and technical documentation of the model structure. Nevertheless, generative AI models such as ChatGPT have been unilaterally put online by their developers. This resembles a large-scale social experiment in which neither a democratic negotiation about the forms and conditions of curating and processing data nor a broad discussion about possible social implications took place.

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2 *Butollo, F., Gerber, C., Görnemann, E., Greminger, L., Katzinski, A.-K., Kulla, M., Sirman-Winkler, M., & Spott, J. (2024). The Symbiosis of Generative AI and Work: Expanding Horizons or Eroding Human Competence* (Weizenbaum Discussion Paper, 42). Weizenbaum Institute. https://doi.org/10.34669/WI.DP/42)

3 Kay, G. (2025). *Inside Grok's war on 'woke'*. Business Insider. February 28, 2025. https://www.businessinsider.com/xai-grok-training-bias-woke-idealogy-2025-02

3.3. AI development follows profit-oriented, not public welfare-oriented objectives

Although AI could make valuable contributions to solving social challenges, its development is driven by commercial interests. The energy- and resource-intensive nature of the technology, coupled with the pursuit of market dominance, has so far prevented a consistent focus on the common good. Large companies in the tech industry pursue innovation strategies that are geared towards technology profits, lock-in effects and scaling their business models, but not towards maximizing social participation or solving social problems. Democratic co-determination of technology development remains marginalized. Public stakeholders currently have neither systematic access to decision-relevant training data nor to the fine-tuning of models, and the debates on algorithmic transparency, fairness and sustainability are largely taking the form of retrospective regulation – this also applies even to the rather far-reaching approach of European AI regulation. Without investment in non-commercial innovation paths and precise, human-centered political guard-rails, generative AI remains a technology whose social impact is primarily defined by private profit calculations. A continuation of this status quo threatens to perpetuate and exacerbate known problems of the digital economy – in particular, social inequalities, geo-economic dependencies, costs that are difficult to calculate and the radical exploitation of non-renewable natural resources.

There is also a risk that tech companies will further restrict access to the most effective AI applications. As AI applications become irreplaceable in knowledge work and personal use, companies can monetize them. Moreover, because it can be difficult to counter-finance the expensive development of these systems through advertising, their use may become more costly once they are firmly established in business practice. It is already becoming apparent that providers are focusing on free offers with a very limited range of functions and premium versions with full functionalities. This development is likely to exclude large groups of users from the potential of the best models, particularly in poorer countries. Unequal access to AI tools could also further exacerbate existing power asymmetries within Germany. If financially strong players, in particular, gain access to the most powerful products, while others are unable to do this for financial reasons, social and economic inequalities threaten to deepen further.

4 Setting the Course for the AI Economy

The development and implementation of artificial intelligence is at a crossroads, caught between the logic of economic exploitation, geopolitical calculations and the hope of shaping technology for the common good. The course of the technology race to date makes it clear that market and power concentration are not unintended side effects but rather structural characteristics of the current AI economy. At the same time, it is clear that technological innovation alone by no means automatically leads to progress for society as a whole. Targeted political measures are required to integrate social, ecological and democratic criteria into technological development.

An alternative path to AI development that aims to use it as a means of overcoming systemic problems rather than as an accelerant of social crises requires a conscious strategic industrial policy, the strengthening of innovation spaces oriented towards the common good and new forms of collective co-determination in digital infrastructures. It will be important to redefine technological development through social negotiation, democratic control and international cooperation. The question is not just *what* AI can achieve in the future – but *for whom, under what conditions and with what consequences*.

5 Policy Recommendations

In light of the issues raised in this paper, the key decisions concern several levels: firstly, the question of distribution, i.e., who has access to AI infrastructure, computing power and data; secondly, the question of control, i.e., who decides on training content, model design, application contexts and conditions of use; and thirdly, the question of sustainability, i.e., how the massive resource requirements of generative AI can be reconciled with climate policy objectives.

5.1. The question of distribution: How do we create broader access to AI infrastructure, computing power, data and value creation potential?

- A mission-oriented innovation policy geared towards social priorities, public funding for AI development and application requires comprehensible, public welfare-oriented objectives.
- Strategically important projects in this context include the development of advanced, openly accessible AI technologies, cloud infrastructure, and specialized AI applications. These initiatives position Europe to become a global hub for technology development that serves the common good.
- In the public sector, the use of open-source software (OSS) and the prioritization of open interfaces and open standards is recommended, especially in the field of AI. In this way, path dependencies and lock-in effects can be reduced in a targeted manner and the digital sovereignty of public administrations can be strengthened significantly. There should also be clear incentives for companies to use AI solutions that prioritize public concerns about the free use of software over proprietary profit maximization. In addition to direct financial incentives (such as tax cuts, requirements in public tenders and funding guidelines), targeted educational opportunities and the establishment of expert networks and OSS incubators that support the early development phase of projects are also suitable here. Central platforms for the dissemination and quality assurance of OSS can facilitate the scaling and distribution of created solutions.

\ Beyond the pure promotion of Open technology application, the initial development of open-source AI should also be taken into account. Scientific and civil society initiatives should be strengthened and involved in digital policy framework development. Projects such as OpenGPT-X provide transparent, customizable alternatives to commercial AI models. They enable AI applications to be in line with European data protection and transparency regulations and increase Europe´s competitiveness in the field of open technologies. Targeted open tech funds can be usefully supplemented by the provision of computing power, the targeted bundling of demand and the establishment of international research and development partnerships. At best, the targeted promotion of OSS development can ensure that open-source solutions offer a user experience and functionalities comparable to proprietary offerings. This should consistently reduce reservations and barriers to change.

\ The issue of distribution, however, involves not only the promotion of more independent technologies and in-house developments; it should also take into account the current distribution of the AI dividend. Large tech corporations benefit from economies of scale, copyright infringements, low tax burdens, and unfair market practices (such as the exclusion of many open-source applications from commercial app stores). New tax concepts and antitrust measures could help to more effectively limit the disproportionate extraction of rents and the distributional power of these platforms.

5.2. The question of governance: How can we expand society's ability to make decisions about the development, use contexts, and conditions of AI?

\ In a whole set of innovative regulations, the European Union already requirements for the use of AI in sensitive areas and prohibits, for instance, AI systems that manipulate people. Given the current political developments in the United States—where tech companies are relaxing the moderation of problematic content in line with the stance of the Trump administration—this may lead to a confrontation between Big Tech and EU regulators. Such a confrontation is to be welcomed, as it fosters a focused societal debate about the criteria for AI use in Europe.

\ Even in the face of geopolitical conflicts and trade disputes, regulatory approaches should by no means become bargaining chips. The European digital laws will only effectively serve their purpose if they are consistently and strictly enforced. Then, the AI Act can protect users, oblige AI providers to ensure transparency regarding their system architectures and data inventories, and provide European companies with the necessary legal and planning certainty. Strict application of existing digital regulations can limit the reach of problematic applications such as "Grok" and create space for alternative AI offerings that uphold democratic core values and comply with regulations such as those addressing disinformation and hate speech.

- Approaches to the standardization and norm-setting of AI technologies should be taken into account during the implementation of the AI Act, as should the expansion of reporting obligations that are as "smart" as possible—that is, fulfillable without significant bureaucratic overhead.
- Improved data portability and data availability are crucial in order to reduce the data supremacy of major platforms and meaningfully support independent development efforts. Elements of this strategy are addressed in the Digital Markets Act; however, they should be intensified and expanded in order to "level the playing field" and establish equal baseline conditions for AI development.

5.3. The sustainability question: How can the intensive resource consumption of AI be addressed early on?

- The energy intensity—especially of generative AI—not only represents a difficult-to-predict cost factor but also entails significant ecological consequences. Under current technical conditions, the widespread use of generative AI cannot be considered sustainable without a simultaneous expansion of renewable energy production. Therefore, increased investment should be directed toward research into energy-efficient AI architectures, and AI deployment should follow the principle of digital sufficiency (i.e., restrained and purposeful use).
- Although the substantial demand for electricity, water, and mineral resources in the development and operation of artificial intelligence is well known, the actual consumption of AI providers remains strikingly opaque. Reporting obligations and the disclosure of consumption data could help increase transparency. In addition to usage figures, data on CO_2 emissions and resulting electronic waste should also be made public to allow for a comprehensive assessment of the AI sector's ecological footprint.
- In this context, the development of standardized metrics for measuring environmental impact in the first place is a necessary step. These would enable comparability and allow for targeted policy measures to reduce consumption, for instance, through the establishment of benchmarks and regulatory limits.

These axes of political action call for a break with a policy approach that relies on the self-interest of companies in order to develop forward-looking and sensitive technologies. Rather than depending on market-based self-regulation, we advocate for active and decisive shaping by public and civil society actors. The widespread use of generative AI presents a societal and political challenge on many levels. It demands bold strategic decisions, ambitious investments, and forward-looking regulation to safeguard democratic values, participation and technological sovereignty in the digital age. The question is not whether we shape the future but how—and with whom.

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