Artificial intelligence and decentralization
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Discussion of Brynjolfsson and Hitzig, "AI's Use of Knowledge in Society"

Brynjolfsson and Hitzig argue that transformative AI leads to the centralization of power because it enables the transfer of tacit knowledge and it expands the processing capability of agents. In their model of decision rights in an organization with a headquarters and local "entrepreneurs", local tacit knowledge becomes alienable and therefore accessible to headquarters without the need for local decision-making. Similarly, headquarters is able to coordinate across local agents due to better processing capabilities. This framework appropriately highlights the possibility that transformative AI will centralize power in organizations.

The opposite is also possible. There are at least three forces that could lead to a decentralization of decision rights and power in organizations. First, tacit knowledge often resides at headquarters rather than solely in local agents, meaning that transformative AI could move decision rights away from headquarters. Second, AI may equip individuals with capabilities previously reserved for large organizations. Third, transformative AI may diffuse rapidly, and so many different individuals could have access to the capabilities of transformative AI. Combined, these forces suggest that, rather than concentrate power, transformative AI could democratize access to sophisticated tools that were previously only available to a handful of highly skilled people.[1]

Summary of Brynjolfsson and Hitzig

Brynjolfsson and Hitzig model two shifts in the boundary of the firm through transformative AI. Starting with a two-party incomplete contracts framework (as in Grossman and Hart 1986 and Hart and Moore 1990), they first argue that AI codifies previously tacit, local knowledge, turning what the local entrepreneur knows into an "alienable" asset that can be transferred to headquarters. Second, they argue that AI lowers the cost and raises the benefit of central information processing. Assuming headquarters' investment in refining AI models and acquiring computational resources has large aggregate benefits, whereas individual managers' incremental know-how may matter only for their local outlet, central ownership and decision-making are more efficient.

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[1] As I discuss below, such democratization is not necessarily welfare improving.

In their multi-agent extension, centralization's benefits increase with the complementarity parameter, which captures how pooling information assets yields non-linear learning gains. Thus, the benefit of centralizing data with a single decision maker (within the assumed single firm) increases. AI also expands processing capacity well beyond human working memory, so that central systems can share newly acquired knowledge instantaneously. These forces, they argue, create a push to central planning where economic and political power concentrates among AI-rich actors. [2]

Tacit knowledge and the direction of alienability

The distinction in where tacit knowledge resides is critical to understanding whether AI will drive centralization. One important force to centralization in Brynjolfsson and Hitzig's analysis is the assumption that transformative AI makes the tacit knowledge held by the local entrepreneurs alienable. This means that the local agents have no special advantage over headquarters, making centralization more efficient. Brynjolfsson and Hitzig provide several examples for which the model of headquarters / local entrepreneur could apply, including café franchise / local café managers and service dispatcher / technician.

However, tacit knowledge often resides at headquarters rather than with local agents. For franchises, there is a great deal of tacit knowledge at headquarters related to marketing skills, supply chains, and other business functions. In contrast, many of the local decisions are codified in a set of standard operating procedures as part of the franchise manual.

Transformative AI could reverse this dynamic: franchisees gaining access to headquarters' knowledge might operate independently without centralized coordination. In this way, transformative AI could increase the productivity of local entrepreneurs by giving them access to the abilities of the managers at headquarters. A local restaurant owner with transformative AI could do sophisticated demand forecasting, inventory optimization, and customer analysis that previously required enterprise-scale resources.

Contrary to fears about AI displacement, AI might empower workers to become independent entrepreneurs rather than dependent employees. Technology can replace the need for some kinds of specialists (e.g., Teodoridis 2018). Transformative AI could enable one person using AI to do what previously required departments (Amodei 2024). To some

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[2] I have quibbles with the leap from their model to sweeping conclusions about Hayek, command economies, and socialism. If we accept this leap, then, under the same logic, the possibility of decentralization means that transformative AI might enable a new era of entrepreneurial democratic capitalism. Given that this is not my core area of expertise, I leave it for others to assess the credibility of the link from model to political economy.

extent, this is already happening with generative AI. For example, Del Acqua et al. (2025) show that individuals with AI match the performance of teams without AI in an innovation challenge. Transformative AI, assuming it remains under human control, therefore represents a type of cognitive tool that has potential to amplify individual decision-making capabilities.

Individual empowerment through transformative AI

Steve Jobs called computers "bicycles for the mind", cognitive tools that amplify human capabilities. In Agrawal, Gans, and Goldfarb (2025), we argued that both prediction machines and generative AI represent a new generation of such cognitive tools. One person with transformative AI could perform work that previously required entire departments. This isn't about competing directly with large organizations on their traditional strengths, but about accessing entirely new capabilities that make independent operation economically viable.

Brynjolfsson and Hitzig argue that AI improves coordination and learning, making centralized control more valuable. Yet these same coordination improvements could favor networks of smaller, independent entities. Online platforms like Amazon marketplace and Shopify enable millions of small sellers to access sophisticated tools for logistics, payments, and analytics. The platform provides coordination, but the actual business decisions remain distributed across thousands of independent entrepreneurs. Stroube and Dushnitsky (2025) provide suggestive evidence that Shopify increases entrepreneurship rates for historically underrepresented groups. A similar phenomenon has arisen in creative industries, where digital platforms have reduced entry barriers for artists and authors, leading to what Waldfogel (2018) labeled a "Digital Renaissance".

Transformative AI could also enable new forms of economic organization that combine the benefits of coordination with the advantages of distributed decision-making. Platforms demonstrate how coordination benefits can coexist with distributed decision-making as both platform operators and individual entrepreneurs gain capabilities. The ability to identify business opportunities becomes more important than the benefits of a large, coordinated bureaucracy that can implement a wide variety of actions.

Rapid diffusion of transformative AI

The decentralization effect depends critically on widespread access to transformative AI capabilities. If transformative AI follows a similar pattern to previous computing

technologies, then broad diffusion is likely. Personal computers, internet access, and mobile phones all followed patterns of rapid cost reduction and widespread adoption. In the case of the internet, by 2000 over 90% of large US establishments were using internet for basic services (Forman, Goldfarb, and Greenstein 2005). Early data on generative AI adoption shows similar trends, with ChatGPT reaching 100 million users within two months of launch (Hu, 2023), and by late 2024, 40% of US adults aged 18-64 used generative AI (Bick, Blandin, and Deming 2024). This suggests faster diffusion than computers or the internet. Rather than being confined to corporate headquarters, generative AI is being integrated into the workflows of millions of individuals.

Brynjolfsson and Hitzig provide no specific reason why diffusion of transformative AI would be more limited. The competitive environment and regulatory decisions will play an important role in determining whether diffusion is widespread enough for this democratization potential to be realized. The ability of the AI developers to centralize power through their platforms will be constrained if there continues to be several competing models. Furthermore, a regulatory environment that enables open models and open-source frameworks could provide further competitive pressure to ensure widespread availability.

Risks of decentralization

Decentralization also brings risks. It could increase information fragmentation and polarization. The internet's decentralization of information dissemination has produced echo chambers and filter bubbles (Levy and Razin 2019). In the context of AI, personalized recommendations and hyper-targeted content could exacerbate fragmentation (Acemoglu, Ozdaglar, and Siderius 2025). Transformative AI could lower barriers to cyberattacks, misinformation campaigns, and advanced weapons (Kreps 2021; Lindsay 2025; Bloomfield et al. 2025). Adversarial actors can exploit AI to destabilize societies and undermine democratic institutions (Schroeder et al. 2025). Democratizing AI capabilities also democratizes potentially dangerous tools.

Conclusion

Brynjolfsson and Hitzig correctly identify AI's potential for centralizing information processing and decision-making, changing organizational boundaries and potentially concentrating economic power. However, their analysis may underestimate AI's simultaneous potential for democratizing sophisticated capabilities. The same technology that enables centralized coordination also makes individuals more capable.

Sam Altman's vision of one-person billion-dollar companies (Confino 2024) illustrates this paradox. While Brynjolfsson and Hitzig frame this as evidence of centralization, it could equally represent radical decentralization. With transformative AI as a tool, individuals wielding AI could compete effectively with large corporations.

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