
THE WEALTH OF INFORMATION

Book Review by Samuel Gardner

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Details:

Title: *AI Superpowers: China, Silicon Valley, and the New World Order*

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Publisher: Houghton Mifflin Harcourt

Date of publication: 2018

Number of pages: 272

Price: \$14.00 (hardcover)

ISBN-13: 978-1328546395

Perhaps no technological development is posed to be as disruptive in so many fields as Artificial Intelligence. While the United States has held the lead in AI research so far, in his new book, *AI Superpowers: China, Silicon Valley, and the New World Order*, Kai-Fu Lee argues that the future may look very different. Lee, an accomplished artificial intelligence researcher turned venture capitalist and former president of Google China, possesses a unique perspective on not just artificial intelligence, but on the business culture surrounding tech firms, both in Silicon Valley and China. The book is insightful, occasionally provocative, and extremely readable, making it perfect for non-experts who want to better understand the intersection of business culture and technology in the world's two largest economies and perhaps gain some insight into a possible future.

For decades, Silicon Valley has regarded Chinese tech firms as purveyors of shoddy knockoffs incapable of competing with titans such as Microsoft or Facebook, yet that perspective has since changed. The failure of American firms to transfer their success to China, something Lee witnessed first-hand, and the tremendous success of Chinese firms such as Alibaba, Tencent, and Baidu have revealed that China has narrowed the competitive distance between the two countries considerably. Lee takes this even further, arguing that despite the American first-mover advantage and edge at technological innovation, Chinese firms are better positioned to implement those developments, applying them in thousands of use cases that will ultimately transform society. Lee argues that a combination of Chinese business culture, unparalleled access to data, and governmental coordination will allow China to take the lead in implementing artificial intelligence, a development that could prove to be both massively disruptive and profitable.

Lee spends considerable time outlining the entrepreneurial culture in China and discussing how and why it departs from the Silicon Valley model. He focuses on the willingness of Chinese firms to do whatever it takes, including shamelessly copying others' intellectual property and even outright lying to customers, as a hallmark of Chinese business culture. This has resulted in a "gladiatorial mentality" in which "competition is war."¹ Additionally, Chinese firms are, "unencumbered by lofty mission statements or 'core values,'"² leaving them free to follow trends in user activity wherever they lead. This relentless focus on making money and willingness to embrace bare-knuckle tactics have shaped a generation of ruthlessly effective entrepreneurs, who Lee argues are very much up to the task of challenging Silicon Valley's best and brightest.

The second major advantage of Chinese AI firms is access to the world's deepest stores of data, a resource Lee likens to "the oil that powers the generators"³ of AI. This is due to a combination of cultural willingness to share data at the cost of privacy and a massive ecosystem of Online to Offline (O2O) services. These services, such as food delivery apps, bike rental apps, and the ubiquitous Wechat Pay, reveal not just the digital lives of customers but also the details of their offline lives as well—what foods they eat and when, where they go, what they purchase, with whom they spend time and for how long, and so forth. This massive store of data is invaluable for training AI algorithms, equipping them with the raw materials needed for the "deep learning" process meant to shape and refine them.

The final advantage that Lee sees is one of regulation. He explores the Chinese system in some depth, discussing how top-down directives are set, leaving promotion-hungry local officials to compete with each other to best implement those ideas. Everything, from tax breaks to free rent in designated Entrepreneur Zones, allows Chinese regulators to incentivize certain kinds of activity by throwing huge sums of money at it. Lee points out that much of this is woefully inefficient; products are made but never used, buildings are left standing empty, investments are misappropriated or simply mismanaged, and so forth. However, Lee argues that even an inefficient process can still be an effective one, especially if one is willing to pay a premium for speed with the hope of reaping the massive long-term upsides of technological innovation. These inefficient incentives were justified since "the Chinese government wanted to engineer a fundamental shift in the Chinese economy, from manufacturing-led growth to innovation-led growth, and it wanted to do that in a hurry."⁴ This top-down regulatory strategy, though heavy handed to American eyes, has undoubtedly been effective in transforming China into an economic juggernaut, poised to harvest the lion's share of benefits from the impending AI economy.

1 Kai Fu Lee, *AI Superpowers: China, Silicon Valley, and the New World Order* (Houghton Mifflin Harcourt, 2018), 41.

2 *Ibid.*, 45.

3 *Ibid.*, 50.

4 *Ibid.*, 65.

The middle third of the book largely deals with the drawbacks of an AI economy. Here, Lee focuses on the potential for massive job losses as increasingly sophisticated algorithms disrupt entire job sectors from transportation to medicine and even to contract law. Although past technological innovations have not resulted in catastrophic unemployment, Lee argues that they happened at a much slower pace, allowing for people to retrain — a luxury that infinitely duplicable algorithms will not afford us. Lee also argues that the nature of AI lends itself to monopolistic practices. Relying as they do on “billions of dollars in cash and dizzying stockpiles of data” the “Seven Giants of AI”⁵ (Google, Microsoft, Facebook, Amazon, Alibaba, Baidu, and Tencent) are poised to sweep up essentially all AI talent, giving them the capital and the tools to reshape the economy. Furthermore, as their AI gets better, these giants are likely to offer better services and products to consumers— better economies of scale, algorithmic recommendations, and access to products and content — further concentrating wealth in ever fewer hands.

Perhaps the gravest threat that Lee discusses is staggering income inequality. With a handful of firms in only two countries situated to collect trillions of dollars in profits from the process of automating away entire industries, the future looks very bleak for the global have-nots. Without the need for cheap labor, it will be increasingly difficult for poorer countries to pull themselves up the economic ladder in the same way that South Korea and China had in the last few decades. Even in developed countries, it is unclear what the newly unemployed will do when manufacturing, transportation, journalism, and many other fields are dominated by machines. This is the danger Lee feels is most grave, arguing that “Within fifteen years I predict that we will technically be able to automate 40 to 50 percent of all jobs in the United States. That does not mean all of those jobs will disappear overnight, but if the markets are left to their own devices, we will begin to see massive pressure on working people.”⁶

One common suggestion, which has become increasingly popular in Silicon Valley, is Universal Basic Income (UBI). Such a program would provide every citizen with a guaranteed monthly income funded by taxes on those firms reaping the benefits of automation. Lee dismisses UBI as a “purely technocratic approach—one that sees each of us as a set of financial and material needs to be satisfied.”⁷ Lee maintains that simply transferring sufficient funds to everyone to ensure that they do not starve or become homeless is fundamentally insufficient and inhuman. Instead, he suggests using the wealth generated by AI to reshape people’s relationships with work itself, using salaries to incentivize prosocial behavior such as caring for families, creating art, volunteering, and self-educating. Although the details of such a proposal are still limited, it is a fascinating vision of what society could be —one that clearly has been shaped by Lee’s personal experiences following a cancer scare, which he discusses at length in the book.

5 Kai Fu Lee, *AI Superpowers*, 80.

6 *Ibid.*, 199.

7 *Ibid.*, 201.

“AI Superpowers” is a fascinating book that examines a vitally important issue from a unique perspective. Lee’s conclusions, though plausible, rest on a few major premises that I wish were addressed in deeper detail. For example, many of his arguments rest on the idea that the world is in an “age of implementation” rather than an age of innovation — that is, this historical point in time will reward widespread “good enough” engineers applying AI to the economy. Although predicting future technological developments is difficult, there is a chance that this may not be sustainable — that this “age of discovery” will reward deep theoretical insights over novel application of existing theories. Additionally, Lee’s rejection of UBI is somewhat puzzling, and his ideas for what could take its place are, although compelling, not thoroughly explained. Regardless, “*AI Superpowers: China, Silicon Valley, and the New World Order* is a deeply enjoyable, eye-opening look at a possible future and a moving call to action to “proactively seize the opportunity that the material wealth of AI will grant us and use it to reconstruct our economies and rewrite our social contracts.”⁸