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# GENERATIVE AI—ARE WE WITNESSING AN IPHONE MOMENT?

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Is ChatGPT the ‘iPhone Moment’ for [artificial intelligence](#)? The iPhone catalyzed many different things all in one device:

- It is hard to remember a time before smartphones, but the iPhone was only introduced in 2007. Apple is one of the world’s largest companies by market capitalization, and there are many companies making smartphones that are also quite large.
- It is also hard to remember a time before apps, but there is now a so-called app-economy. Spending in iOS and Android apps in 2022 is estimated at almost \$130 billion.<sup>1</sup>

Why did the iPhone so successfully change the world? It combined an aura of excitement with an incredibly flexible set of potential future capabilities and an ease of use that competitors in 2007 struggled to match. Today, the iPhone is not even really a device but rather a key into an ecosystem where many different services can be consumed.

**Will ChatGPT become something similar?**

It is a bold prediction to say ChatGPT is the next iPhone. It would mean [OpenAI](#) has a chance at becoming the world’s most highly valued company by [market capitalization](#) and at staying in that position for numerous years, similar to what Apple has done. Apple created both hardware and software—it is likely that if Apple focused solely on either hardware or software, it wouldn’t have been as successful.

**Microsoft vs. Alphabet**

In 2023, it is clear the world’s largest companies see the potential value of the ChatGPT software and are acting to capitalize on their slices of the economic pie. Microsoft has been the most direct, investing around \$10 billion into OpenAI and indicating the technologies underpinning GPT-4 will be incorporated into programs like Office 365. If Microsoft charges a small amount more for the Office 365 subscription that includes access to GPT-4, this could equate to tens of billions in incremental annual revenue.<sup>2</sup>

Alphabet, through its Google platform, is seeking to create its own version of ChatGPT, but it does not seem to be moving as quickly as OpenAI. This is possibly due to the Innovator’s Dilemma—as no other company has a greater-than-90% market share of internet search, it is tough to imagine Google desiring a new way of searching.<sup>3</sup>

Microsoft CEO Satya Nadella was masterful in creating the perception of a possible ‘search war’ before any behaviors actually shifted away from Google search.

Both companies will deploy generative AI into their cloud services, seeking to invigorate growth in this important part of their revenues after 2022 posted slower growth than had been seen in prior years. This too could add tens of billions in incremental annual revenue.

**AI’s Pie of Economic Value**

On a recent episode of the Lunar Society podcast, posted on March 27, 2023, Ilya

Sutskever, OpenAI's Chief Scientist, noted AI is going to be increasingly more valuable year after year, and that this could continue exponentially.<sup>4</sup>

Who will capture all the value created by AI? Being involved with both software and hardware elements, as well as the app store, Apple captured lots of different slices of an ecosystem sparked by the introduction of the iPhone, and also maintained its staying power as the environment continued to evolve. In the case of generative AI, the technology that underlies systems such as ChatGPT, we see a catalyst for increased demand for cloud computing. It is not coincidental OpenAI has a significant relationship with the world's second-largest provider of cloud computing infrastructure with Microsoft's Azure where AI models of this size can be efficiently trained, stored and run.

All the cloud infrastructure players—Amazon Web Services, Microsoft Azure, Google Cloud, Oracle and others—are surely seeking to create an Apple-like ecosystem that is not 'friction free' for a user to shift from iOS to Android. The more value-added services provided, the less likely customers would be enticed to switch their provider or bring more of their workload back on premise. They want cloud customers to get used to the cloud computing equivalents of air pods, the Apple Watch, Apple TV, etc.

The largest tech-oriented companies in the world are also ramping up their investments<sup>5</sup>:

- In 2022, Alphabet, Amazon, Apple, Meta and Microsoft spent \$223 billion on research and development (R&D), up from \$109 billion in 2019. This was in addition to \$161 billion in [capital expenditures \(CAPEX\)](#)—which represented a tripling in three years.
- These five companies were spending roughly 16% of their annual combined revenues on R&D and CAPEX in 2015, which had risen to 26% in 2022.
- Meta indicated AI is its biggest investment category, and Alphabet is planning to reveal the size of its AI investment for the first time as part of its Q1 2023 earnings announcement.

We also see various partnerships and integrations with ChatGPT being announced, a subset of which we mention here:

- Shopify is an interesting use case, where one can "Make [an] AI-Powered Store." Think of customer service—ChatGPT-powered chatbots do not need to operate in terms of hours so it would be possible that Shopify merchants could immediately access 24/7 customer support.<sup>6</sup>
- Salesforce has referenced technology it is calling EinsteinGPT, which would combine its proprietary AI with that of outside partners, like OpenAI, to help businesses generate email drafts, customer-account information and computer code.<sup>7</sup>
- The Coca-Cola company will leverage OpenAI's generative AI technology for marketing and customer experiences. This includes personalized ad copy, images and messaging.<sup>8</sup>

#### Smaller Companies for Specialized Services and Acquisitions

Smaller start-up companies may use different large language models as a base, but then allow their users to more easily incorporate a chatbot directly onto their website to help with customer service queries.

In regulated industries, such as financial services, companies can feed past requests and questions, so large language models can read and then learn from the questions and responses, thereby readying themselves for the future.

Nuance Communications, for example, was acquired by Microsoft for its specific expertise in natural language processing related to healthcare services. Medical transcription is a huge, but also quite the specific market.

**Bottom Line: Be Ready for Diversified Value Creation Across Many Different**

## Industries

When generative AI ultimately is consumed through the cloud computing platforms, the impact will not be limited to any single area of the economy. Back in 2021, WisdomTree launched an ETF to capitalize on these burgeoning use cases.

The [WisdomTree Artificial Intelligence & Innovation Fund \(WTAI\)](#) is designed to track the returns of an index that seeks to consistently have exposure to a wide range of different activities that could be impacted by AI. [Semiconductors](#), software and innovative use cases—these are but some of the examples of investments that would benefit if generative AI really takes hold globally.

On March 27, 2023, the *Wall Street Journal* cited U.S. authorities responsible for antitrust enforcement felt it important enough to mention their intention to protect the AI market from actions that might yet be taken by large incumbents, fearing threats to their dominance in the space.<sup>9</sup> This is yet another indication this technology has far-reaching implications.

<sup>1</sup> Source: <https://www.businessofapps.com/data/app-revenues/>

<sup>2</sup> Patrick McGee & Madhumita Murgia, “Microsoft to Add AI Co-Pilot to its Office Software Suite,” *Financial Times*, 3/16/23.

<sup>3</sup> “Is Google’s 20-Year Dominance of Search in Peril?” *Economist*, 2/8/23.

<sup>4</sup> Source: <https://podcasts.apple.com/us/podcast/ilya-sutskever-openai-chief-scientist-building-agi/id1516093381?i=1000606122602>

<sup>5</sup> “Big Tech and the Pursuit of AI Dominance,” *Economist*, 3/26/23.

<sup>6</sup> Source: <https://community.shopify.com/c/ecommerce-marketing/chatgpt-for-shopify-store-make-ai-powered-store/td-p/1961298>

<sup>7</sup> “Salesforce to Add ChatGPT to Slack as Part of OpenAI Partnership,” *Reuters*, 3/7/23.

<sup>8</sup> Lisa Johnston, “Coca-Cola Signs as Early Partner for OpenAI’s ChatGPT, DALL-E Generative AI,” *Consumer Goods Technology*, 2/21/23.

<sup>9</sup> Jan Wolfe & Dave Michaels, “FTC Chair Lina Khan Vows to Protect Competition in AI Market,” *Wall Street Journal*, 3/27/23.

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## DEFINITIONS

**Artificial intelligence**: machine analysis and decision-making.

**OpenAI**: An artificial intelligence (AI) research laboratory consisting of the for-profit corporation OpenAI LP and its parent company, the non-profit OpenAI Inc.

**Market Capitalization**:  $\text{Market cap} = \text{share prices} \times \text{number of shares outstanding}$ . Firms with the highest values receive the highest weights in approaches designed to weight firms by market cap.

**Capital expenditures**: Spending by a company typically made to enhance longer-term productive capacity.

**Semiconductor**: A semiconductor is a material product usually comprised of silicon, which conducts electricity more than an insulator, such as glass, but less than a pure conductor, such as copper or aluminum. Their conductivity and other properties can be altered with the introduction of impurities, called doping, to meet the specific needs of the electronic component in which it resides.