How artificial intelligence can fuel growth across megatrends

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Artificial intelligence (AI) is transitioning from a standalone theme to a foundational innovation that will drive growth across multiple megatrends. We explore three frontiers where AI is already making a significant mark: software, healthcare, and the energy transition.

AI will transform the future of software

The rapid digitisation of our world, accelerated by the global pandemic, has set the stage for a surge in software adoption. Despite this growth, software providers are facing a slowdown due to macroeconomic uncertainties. Rising interest rates have also impacted software company valuations, reducing available funding from capital markets.

In this challenging landscape, software vendors are seeking to drive sales by enhancing cost-effectiveness or making their products more appealing to customers. AI emerges as a significant opportunity in 2023, offering potential to bolster growth and complement the ongoing transition to cloud computing. Cloud-based solutions democratise access to AI, exemplified by innovations like ChatGPT, which have captured global interest and highlighted developments in the Cloud space.

Generative AI's rise is poised to occur through the Cloud, given its need for significant compute capabilities and data digitisation. Cloud infrastructure vendors like Amazon Web Services, Microsoft Azure, and Google Cloud enable companies without extensive computing resources to utilise generative AI.

Figure 1: People across business functions and industries believe that use of generative AI applications can help in their work

Sources: Surveys by Salesforce and Github, 2023. Historical performance is not an indication of future performance and any investments may go down in value.

Generative AI is increasingly viewed as a growth engine for the Cloud economy, with 86% of IT leaders anticipating its prominence (see Figure 1). This enthusiasm is reshaping the landscape for software companies, leading to a flurry of new product releases across multiple business functions and industries.

Figure 2: Cybersecurity solutions are becoming ever important with the evolving cyber threat landscape



AI and Cloud are intrinsically linked to robust cybersecurity solutions. The rapid advancements in generative AI have fuelled a sophisticated cyber threat landscape, with cyberattacks becoming more efficient and prolific. Cybersecurity professionals anticipate a rise in AI-enabled threats, emphasising the importance of cybersecurity solutions in this evolving landscape (see Figure 2).

Addressing cybersecurity risks has become a priority, with 59% of respondents in a 2022 McKinsey survey recognising it as a relevant risk associated with AI adoption. The cybersecurity industry is innovating continuously to meet evolving demands, with cloud-based and AI-powered cybersecurity companies emerging as a testament to this progress. The increasing migration to the Cloud and the proliferation of AI underline cybersecurity solutions' critical role, ensuring its significance as an imperative for any business and creating substantial momentum for the industry.

AI will create opportunities for innovation within healthcare

AI and machine learning (ML) are revolutionising healthcare, promising accurate diagnosis, personalised treatment plans, drug discovery, and optimised healthcare administration. Investment in AI within the healthcare sector has been substantial, reaching a record £8.6 billion in 2021, marking a 20% increase from the previous year. Although investment tapered off slightly in 2022 due to rising capital costs, the healthcare industry consistently receives significant AI investment, consistently representing over 10% of total AI investment across domains (see Figure 3).

Figure 3: Private investment in healthcare AI

The growth in the healthcare industry is fuelled by the increasing demand for personalised medicine, cost reduction needs, and the abundance of data. In drug discovery, AI and ML are bolstered by extensive molecular and genetic datasets and sophisticated tools. The integration of AI with CRISPR[1], a cutting-edge gene editing mechanism, enables targeted drug screening and efficient drug development, potentially leading to safer and more efficacious drugs.

AI will turbo charge the energy transition

The energy transition signifies a shift from traditional, predominantly hydrocarbon-based energy sources to a new blend of clean technologies. This shift necessitates a smart understanding of the evolving energy supply and an improved ability to predict changing consumption patterns as consumers adopt emerging technologies. Once again, AI emerges as a potent ally in this transformative process.

According to a report by PwC and Microsoft, leveraging AI for environmental applications could contribute a substantial $5.2 trillion to the global economy by 2030, representing a 4.4% increase relative to business as usual. Additionally, it could reduce greenhouse gas emissions by 4%, equivalent to the projected 2030 emissions of Australia, Canada, and Japan combined. Remarkably, this prediction was made in 2019, almost three years before the AI revolution had taken centre stage[2].

Below are three key areas where AI-driven innovations have already begun reshaping the energy transition.

1. **Renewable energy**: AI is helping optimise the layout of offshore wind farms by analysing vast data on wind patterns, turbine performance, and environmental factors. The use of AI replaces the traditional trial-and-error approach for wind farm layouts, ensuring maximum energy production, as well as improving weather forecasting. Given how rapidly the world is expanding its offshore wind capacity, it makes sense to do this as effectively as possible (see Figure 4 below).
2. **Electric vehicles**: AI is playing a crucial role in planning the deployment of charging infrastructure based on traffic patterns, consumption, and urban sprawl. It is helping determine optimal charging station locations, alleviating range anxiety by aiding journey planning based on available infrastructure and managing charging costs using dynamic pricing models.
3. **Recycling**: The global waste crisis, producing over 2.1 billion tons of waste annually, requires urgent attention[3]. AI-powered sorting technology, equipped with cameras and sensors, efficiently and accurately sorts recyclable waste. The global waste sorting robot market is projected to reach $7.26 billion by 2026, growing at an impressive compound annual growth rate of 20.16% from 2022[4].

Source: Statista, 2023. Historical performance is not an indication of future performance and any investments may go down in value.

Conclusion

Software, healthcare, and the energy transition are three of the many frontiers already being transformed by AI. Like the internet changed all industries by making the world more connected, AI will do the same by

making the world smarter. At WisdomTree, we are excited to watch this revolution unfold and believe that it is only just getting started.

For more information on the outlook for thematics, read our latest Market Outlook, October 2023.

[1] CRISPR Therapeutics, Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)

[2] PwC, How AI can enable a sustainable future, 2019

[3] Statista Global Waste Generation – statistics and facts, 2023.

[4] Market Data Forecast, “Waste Sorting Robots Market Size, Growth, Trends, & Forecast, March 2023.

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