Tech firms are winning the AI race because they understand data better than other sectors

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Artificial intelligence is already powering much of the technology helping to drive the modern economy. AI is now an essential part of how

we use the internet but can also be found in stock exchanges, advanced factories and automated warehouses. It is starting to drive our cars and even [vacuum our floors](#). And yet only a fraction of companies which stand to significantly benefit from AI are exploiting this approach to help deliver their [products and services](#).

One important reason for this is a lack of high-quality data. Technology giants such as Google, Microsoft and Amazon have been able to make great strides in AI—developing software to answer our questions and identify what's in our photos—because of their vast data-gathering operations. But many established industries that could benefit from AI and advanced robotics are struggling to gather, manage and use data in a helpful way.

Having high-quality and trustworthy data is key to helping companies to better understand their markets and customers and enable automated decision making. At an infrastructure level, data can guide planners and developers and help optimize the use and maintenance of [buildings, roads and railways](#). This could also help reduce [carbon emissions](#) by making our infrastructure [last longer and work more efficiently](#), helping to reduce wasted energy and unnecessary traffic.

Foundation of AI

Data is, simply, the [foundation of artificial intelligence](#). To train AI to perform a [specific task](#), you typically need to run sample data through its progressive learning algorithms so that it can adapt and improve its ability to recognize patterns and respond accordingly. Some AI can then automate the repetitive process of discovering useful information from new data and even become better at spotting patterns than humans or identify things we never could. In some cases, the more data that AI processes, the better it learns to function.

However, despite the potential benefits, research shows that in some sectors as [little as 10%](#) of companies have unlocked these kind of advanced analytics approaches. Industries such as [telecoms](#), [automotive](#) and [financial services](#) are trying to catch up with the tech giants. But many sectors, including health-care, education, government and construction, are still not close to reaching the full potential of using data and AI.

For instance, speeding up [medical diagnosis](#) and making it more accurate could save [US$400 billion in the US healthcare sector](#) alone. But the right rules and incentives to encourage enough people to share their medical data with AI developers aren't yet in place and so the sector has yet to realize this potential.

So how can more companies start gathering the data that will help them make the most of AI? There are typically [several key problems](#) that can hold companies back. The data needed may not exist, it may be inaccessible (for example because it is private), it may exist in too many locations, sources [or formats](#) to be useful. It can also be of limited quality or not collected for use with AI and so not have the right information.

There might also be be too much of it. We often hear about the value of "big data", very large data sets from which patterns and other useful insights can be drawn. But collecting more data does not always lead to better analytics results and sometimes can be [unnecessarily complicated](#) and [resource-intensive](#).

These problems can often occur because companies don't have the right strategy or expertise. Research shows many companies [still lack](#) dedicated data teams to make sure the right data is gathered, managed and then correctly used. However, my colleagues and I have recently [conducted research](#) showing technology companies with fewer than 50

employees often use data analytics heavily. This suggests innovative start-ups can be more aware of the value of data and agile enough to use it effectively compared to traditional large companies.

If the traditional companies and other organizations that could benefit most from data and AI want to be able to compete, profit and build a sustainable world, they must start embracing data. AI solutions can only be as good as the quality of data they are built on. This means hiring the right people and putting in place the required policies to gather the correct data, make it accessible, assess the quality and then put it to use to develop AI solutions. Only in this way will these organizations be in a position to truly take advantage of the next industrial revolution.

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