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Investment Insights from Silicon Valley

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Lead Manager, Allianz Technology Trust. With over 40 years of experience of investing in technology companies, Walter Price has witnessed the evolution of the technology sector from the birth of the personal computer to the arrival of the internet and now the shift to cloud computing. Based in San Francisco, giving him close proximity to many of the world's most innovative companies, he heads up the Global Technology Team which manages US$4 billion* in assets.

*Source: Allianz Global Investors GmbH.

Many happy returns

Christmas may be long gone, but the results from the 2016 Christmas shopping season are starting to emerge, and with them comes a clear picture on the winners and losers.

It is clear that online has trumped offline. This has been a pattern for some years, but according to business forecasting group Kiplinger, this year's US holiday season saw online sales grow by 14% compared with a year ago. In-store sales grew by only 1.4% over the same period. A similar picture could be seen in the UK, China and elsewhere around the world.

Then there were some notable victors among the retailers. On Black Friday, Amazon had taken around a quarter of all online sales. However, by the week before Christmas this had risen to almost half. Amazon, one of our top ten holdings in the Allianz Technology Trust portfolio, resolved some of the logistics problems experienced in 2015 and took incremental share from its rivals. In contrast, department stores struggled and a number experienced challenging times over the Christmas season.

The strength of Amazon surpassed even our relatively high expectations for the group. We considered a market share of 30-40% realistic if it kept innovating. In particular, its success has come from persuading third party retailers to use its logistics systems and to sell their products on Amazon. Third party sales are now around half its business.

Perhaps even more striking was a report in September suggesting that no matter where they end up buying, around 55% of consumers start their search with Amazon. Around 90% of consumers will check Amazon even if they find products they like on another retailer's site. As such, for the time being, it is difficult to imagine what will challenge Amazon's dominance.

The network effect

The strength of Amazon is one example of the pre-eminence of larger technology companies in recent years. For example, 2016 saw Google (whose parent company is Alphabet Inc., one of our largest holdings) go from strength to strength, while smaller rivals struggled. This dominance by larger technology companies is often not the experience in other sectors, where small and mid-cap companies are more nimble and grow faster than their larger peers. This is true in parts of the technology market as well, but a key difference for some technology businesses is the network effect.

The network effect was a phenomenon identified by Robert Metcalfe, which stated that the value of a network increased exponentially with the number of users. While two telephones can make only one connection, five can make 10 connections, and so on. This has been vitally important for the relative strength of different social media groups: the more people have friends on a specific network, the more inclined they are to use that network.

The reach of powerful networks keeps increasing. Video is now playing an increasing role, for example, helping people to do everything from cooking to exam revision, to DIY. As such, the network keeps getting better and better and more useful to its users. This is truly survival of the fittest.

Allianz Global Investors

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Transforming industries

Part of our central premise for investing in technology is its ability to reach into new areas and transform them. This has been seen in the motor industry, where technology innovation is turning the whole business on its head. We are seeing this happening increasingly in healthcare.

One example would be in diagnostics, where big data is arming doctors with far greater granularity and nuance. For example, technology can now diagnose tumours that radiologists might miss with the naked eye. The computer is trained by looking at a series of photos, and then understands the characteristics and nature of a tumour in minute detail.

Does it replace the radiologist? No. They will still have a role in examining and evaluating the tumour and recommending a course of action, but the system is powerful and will change the characteristics of the profession.

There are a multitude of other developments: some far-fetched, such as the robotic nurse assistant (able to carry round heavy patients), to more day-to-day innovation, such as remote monitoring of patient statistics such as blood pressure, weight and heart rate.

Technology can also make for more efficient management of hospitals. Powerful human resources systems can look at retention policies across hospitals, for example, analysing what works and doesn't work. Why do employees leave? How does that correlate to performance measurement reviews? Is it better to review performance with individuals every three months, rather than every six months, for example? Can patterns be found in employment history?

In an industry where cost and efficiency are always under scrutiny, technology may have an important role to play in shaping more robust healthcare systems in the future.

Deep learning

Google has many strengths, but until recently its ability to translate foreign languages wasn't one of them. Its literal translations, word by word, were often a source of amusement to proficient linguists and certainly not to be relied on by those with limited skill.

However, Google Translate is an example of how deep learning is transforming certain areas. Rather than simply taking each word and translating it, Google has introduced a new algorithm that uses artificial intelligence to build a diagram of words and meanings. The new system looks at the connection between words to build a translation tool that is now almost indistinguishable from a good translator.

Google claims that the new algorithm reduces translation errors by around 60%. Translators suggest that the new system is more effective for certain languages; it is better at translation between Indo-European languages than it is at Chinese-English, for example. Others suggest that the system may need additional sensory inputs – a video of the relevant phrase perhaps – before it achieves genuinely naturalistic language.

Nevertheless, the progress made to date has implications for certain professions and for education, but also for effective cross-border communication. The uses of artificial intelligence are broad and it is likely to make an impact on more and more sectors.

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