

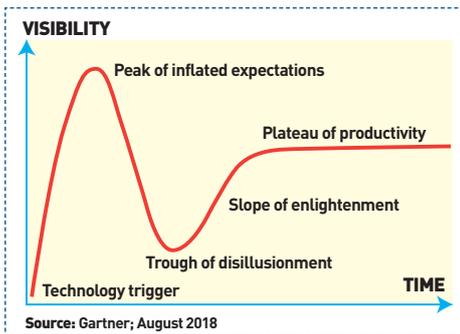
# A NEW AGE OF TECH TONIC SHIFTS



**W**e tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run". This is Amara's Law which reflects most

people's attitudes to emerging technologies and, in our view, is the driver of the technology hype cycle.

When the internet went mainstream in the late 1990s, the technology sector went supernova on the promise of a dream, but it is now, 20 years later, that this dream is being realised. With the rise of the smartphone – four out of five adults now own one\* – internet connectivity has become ubiquitous, fundamentally changing how we live and work in ways we could not even have imagined two decades ago. The benefits to the consumer are immeasurable, but we believe this is only the beginning.

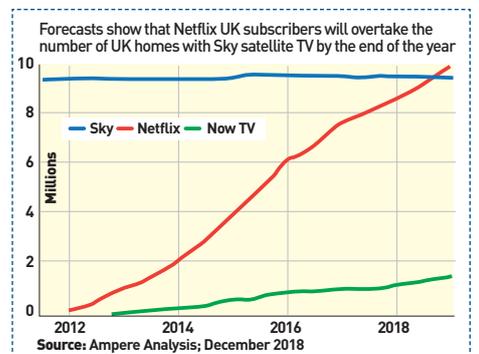


Take the way we shop. Having the internet in our pocket makes going to the shops look increasingly outdated – why should a consumer go to the trouble of getting in the car to go to a store, have to search for the items they need, queue to pay and then bag the items themselves?

Amazon and other eCommerce platforms offer all of this at the consumer's fingertips. Traditional retailers are going to have to up their game if they want to survive and make shopping a truly enjoyable experience.

Behind the scenes, internet connectivity has enabled cloud computing, where processing takes place in datacentres, at an industrial scale, and the output is sent to us for a fraction of the cost. This is enabling a media revolution. Seven years after its launch in the UK, Netflix's internet-delivered service is thought to have a larger subscriber base than Sky UK's satellite service – two decades in the making. In March, Google announced Stadia, a new cloud-based video game-streaming service which promises to bring console-level gaming to your internet browser and smartphone. Combined with the arrival of 5G, we could eventually be playing top-quality games anywhere, anytime.

Smartphone ubiquity and internet connectivity is enabling new business models in transportation too. While the ultimate profitability of services such as Uber and Lyft – 'mobility-as-a-service' platforms – is not clear, the impact on our lives is very apparent. We are already seeing drivers benefiting from advanced driver assistance systems such as automatic emergency breaking and eventually we should see fully autonomous, driverless vehicles on a commercial scale.



Technology is disrupting every industry, not just retail, media and transportation, and the pace of change is growing exponentially. While we understand public concerns about the impact of these technologies on jobs and society more broadly, we believe they will augment rather than replace humans for the foreseeable future. As the legendary Saudi oil minister Sheik Ahmed Zaki Yamani said: "The Stone Age didn't end because we ran out of stones." What he meant was that the Stone Age ended because something better came along. Disruption can be painful in the short term, but these technologies should ultimately give us back more of our most precious commodity, time.



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