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MILLENNIALS AND ARTIFICIAL INTELLIGENCE

THE EXPLOSIVE COMBINATION

The emergence of the millennial generation and the impact of artificial intelligence (AI) are two of the major long-term challenges and opportunities facing the investment community over the next few years. Both are known about, both are written about. But both are also misunderstood and underestimated by the investment community in terms of the potential impact they will have on investment trends.

Seismic demographic shifts

The world is set to witness three key trends that will shape its future for the next 25 years, framed by key demographic shifts. First, there is a massive growth in global population to about 9.6bn from about 7bn today. Most of this population growth will be concentrated in nine countries: India, Nigeria, Pakistan, Ethiopia, Tanzania, Uganda, Indonesia, Congo and the United States.

Second, we will see an aging population with those over 65 set to double to 1.3bn by 2050 while old-age dependency ratios will rise to more than 25% from less than 12% in 2010.

Third, the world will see the growth and impact of the millennials as a socio-economic group become meaningful. Individuals born after 1980 will constitute the largest age demographic in the world at more than 2bn, versus 1.4bn Gen Xers and 1.2bn Baby Boomers[1]. By 2020, they'll account for around 50% of the global workforce – 75% by 2025 – and they'll inherit the largest intergenerational transfer of wealth we've ever seen with more than USD30tn of global wealth to be handed down.

Millennials: a key driving force for the global economy

Millennials currently make up 58% of the population in Asia and 25% of its workforce. 27% of China's population and 29% of India's are millennials. In the US, by 2020, one in every three adults will also be a millennial. One of the many consequences of this demographic shift is that millennials' purchasing power is likely to overtake that of baby boomers as soon as next year as many of them begin to reach the peaks of their careers, as well as the peaks of their earning power.

Shaping the world: millennials are early adopters of technology and also care about ESG issues

Millennials are quicker to use new technology than any previous generation. They also see the world differently to other generations: they are price sensitive and nervous about debt; they live and breathe in the digital world spending 24 hours a week online; they value experiences over ownership. Perhaps because of the size of their student loans and their witnessing of the Global Financial Crisis, and the impact it had on their parents' savings, they tend to be financially risk averse and less trusting. Interestingly, one third of the millennials studied by the Pew Research Center believe they will not need a bank in the future, while 88% already conduct their banking online and half on smart phones.

Environmental, Social and Governance: And yet they are also better team builders, leaning toward co-decision making, equal relationships and co-operation rather than authority rule by a single entity. They care about climate change, sustainable development and what they put in their bodies. Corporate governance, they say, matters. A millennial is also better educated than any generation before and that education is spread wider and deeper among social groups than before: today, for example, the world has a better educated female population than at any other time in history.

Technology: Millennials' relationship with technology is another sea change. Most were born with the expectation that mobility, internet access and constant source of global information is a given. Over the past 20 years, there has been a fascinating extension of one's brain power capacity by the use of tools such as computers and smart phones. In fact, it is these tools that have been shaping a millennial's education and, as a result, a millennial is more likely to conduct their own online financial research.

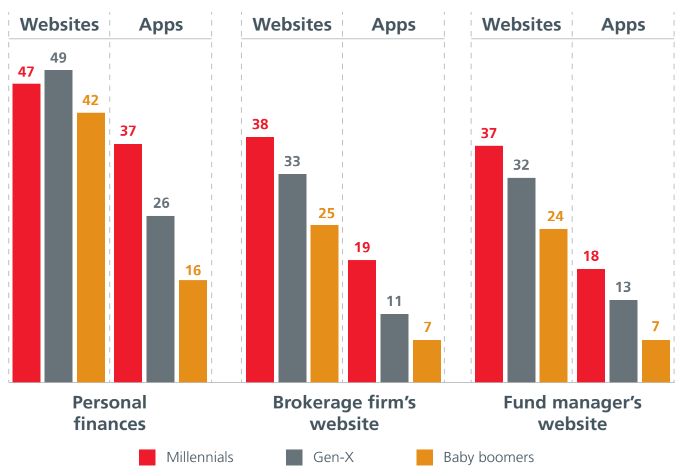
Bringing millennials and AI together: an explosive combination

The incredible revolution in access to information, sharing of information and globalisation of intelligence is one of the most remarkable developments of the past 30 years. Moore's law explaining a doubling of computer power every two years is an essential element explaining the speed of change while another AI expert, Ray Kurzweil, a MIT computer scientist and senior executive at Google, expects that USD1,000 will buy the equivalent processing power of one human by 2020 and expects computer power will surpass the processing power of all human beings by 2040.

The result is that computers are now not only faster but they are becoming smarter too. The combination of neural networks and learning algorithms enabling "learning machines" will have wide implications in many fields. For asset management, we are only at the very edges of the probable capabilities and the changes that AI could bring to the industry. Research, for example, will be transformed as Big Data (smart data extraction) grants quicker access to localised news feeds, allowing this to be incorporated into the investment process and accelerating decision making.

Intelligent automation (including prediction) and increased efficiency and risk monitoring will also have an impact in several areas including trading. The combination of human intelligence with the speed of processing and learning that new machines are capable of, will also enable a higher level of customisation of investment products, and will lead to the ability to capture client feedback intelligently and in a more timely fashion.

Fig. 1: Do you use websites or apps for these areas of personal finance?[2] (%)



Ultimately, although there are many ways in which asset managers will be able to harness the available optionality offered by AI, a first – that is with us now – is the ability to connect to their clients via Robo Advising.

Asset managers will be able to deliver content, offer on-demand customisation and respond to feedback all with machine learning and using digital interaction with clients. To date, this "Robo-Advice" is currently small at just 0.01% of the total Advice market but it will target a millennial generation that will be worth USD10tn in the next few years. With price-sensitive, digitally-minded millennials quick to adopt any new technology, it means the investment world needs to change. And change fast.

Given the millennials interest in content, technology and lower reliance on the conventional sources of advice with regards to wealth management, the delivery and tailoring of such a new service will be important. Further, given this generation's attention to ESG and community engagement in general, we believe that strategies integrating ESG principles and/or thematics that resonate to millennials will form crucial parts of product offerings in the future.

Fig. 2: The legend of Paal Payasam:

A sage asked a king to put a single grain of rice on the first square of a chess board and double it every consequent one. On the 64th square the king had to put more than...

1	2	4	8	16	32	64	128
256	512	1,024	2,048	4,096	8,192	16,384	32,868
64K	128K	256K	512K	1M	2M	4M	8M
16M	32M	64M	128M	256M	512M	1G	2G
4G	8G	16G	32G	64G	128G	256G	512G

18,000,000,000,000,000,000

grains of rice or 210 billion tons (twice surface of the earth)

Conclusion

Ultimately, we believe the impact of technology changes are underestimated by most. While it is natural to expect linear shifts in many areas, technology is a field where changes take place on an exponential basis. The impact of such changes tend to be misunderstood and is as illustrated by the legend of Paal Payasam (Fig. 2).

From an investment standpoint the implication of the millennials and the AI trends highlighted here are important and multi-dimensional as supply and demand will not only shift because of the millennials' tastes, beliefs and economic powers but also because of an ever faster evolution of new technology on traditional or new sectors.

These include consumers (and the shifting power of brands), technology (and new computer science applications), energy (the impact of the concept of AI-enabled localisation versus distributed energy), "health-tech", protection from digital warfare, and new forms of finance. Disruptions and innovations generated by AI and millennials will continue to affect the environment that companies evolve in and investors must be aware of them to navigate potentially new pitfalls and spot new opportunities.

The shifts in marginal power on a global basis also go beyond asset management: as the access to faster and smarter super computers broaden, the competitive edge that some countries, sectors or segment of the population may have gained over decades may erode faster than people expect. This will have profound implications on generations to come.

Virginie Maisonneuve
Chief Investment Officer
Eastspring Investments

Source: [1]United Nations, World Bank, Angus Madison, as at 31 December 2013. [2]April 2017 LM Asset Management.

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