

The age of information abundance



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Cover image:
Envelope from a Presidential
'Thank you' sent to Nathaniel 1st
Lord Rothschild (1840-1915),
Senior Partner N M Rothschild &
Sons, from President Theodore
Roosevelt (1858-1919) in 1904.
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Foreword

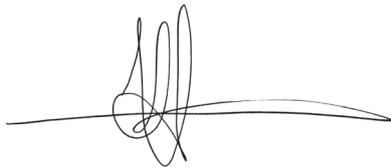
This month marked a milestone for the Watson household as my youngest child celebrated his 18th birthday. Occasions such as this, while often forward looking, can spark nostalgia and reflection. As I think back to my own 18th birthday, I'm reminded just how different my and my son's childhoods have been. In a statement that will surely date me, I grew up using an encyclopaedia – Britannica to be exact – for my own school research. Even pre-dating Microsoft Encarta.

As we all know, our world has been fundamentally changed by the internet and the tools that have developed out of it. Wikipedia, which is also celebrating its 18th birthday this year, is just one of the countless resources that have broken down barriers and 'democratised' knowledge in the 21st century.

These advancements do come with some downside. The quantum, variety and accuracy of information we are exposed to every day can sometimes feel overwhelming and identifying facts can be a challenge. Our team is very focused on developing critical analysis to understand what is true, and, moreover, understanding our own processing limits so as to avoid drowning in all this information.

Drilling down to the most important questions and knowing how to uncover insights are skills our investment team is constantly refining. When we have access to the same information as many other investors, we believe it is this approach and our network that will give us the edge.

In this edition of the *Quarterly Letter*, we look at just how the world has changed and examine how, by asking the right questions, we can continue to preserve and grow your wealth in the long term.

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Helen Watson
CEO, UK Wealth Management

The age of information abundance

Where do you go for answers when you have a burning question? Thirty years ago, the response might have been straightforward; today it is a more complex and potentially overwhelming task. We still consume news and information in the traditional print, radio and TV formats but deeper layers have been created of the same news story when examined online, in apps, on podcasts and through social media, 24 hours a day.

The production of exponentially more and more information through advances in technology has turned information scarcity of years past into information abundance. Critical thinking and the ability to cut through more information than you're able to reasonably manage has become the new, rare skill.

Within our lifetimes we've witnessed a massive transition in how information is delivered, moving rapidly from Tim Berners-Lee's first webpage in 1991¹ to 28 years later having access to 1.5 billion², we certainly are living in an age of information abundance.

Today, 3.9 billion people have access to the internet³. Widespread communication infrastructure and the general affordability of smart devices have made connectivity indispensable. To many of us in the developed world, a loss of connectivity is nothing more than an inconvenience but in Sub-Saharan Africa, for example, that could mean a temporary loss of livelihood. The internet has not only provided individuals with the freedom to exercise their right of expression and access to information, but also access to many basic services like money transfers, micro-lending, and health and weather information⁴.

Access to affordable and powerful processing, combined with software innovations, has increased global productivity and transformed the way we do things. As consumers, our phones can find the answer to questions in seconds, from something small and local like the best restaurants in town, to questions on a global scale like how many people have access to basic services in the developing world.

Democratising knowledge

The vast expansion of knowledge is one of the most significant phenomena of our time. We

have moved from an environment of information scarcity, in terms of what is available and where and when we could find it, to an increasingly diverse environment of information abundance.

While the domain of information is more complex and fragmented than before, finding information has never been easier. Access to knowledge that in previous centuries was the preserve of academics, industry insiders and the elite, has been democratised through device and internet access.

Obtaining information used to require time, effort and, often, money. In a world where 20% of 6- to 17-year-olds still do not attend school⁵, the barriers to accessible education are falling thanks to technology. Connected devices are just one piece to the puzzle, with software and online tools providing another. Innovative platforms and tools provide convenient, personal tutoring, often for free to anyone hungry to learn.

An example of this is the Khan Academy, a free-to-all website that provides structured supplementary lessons to schoolchildren, university students and curious minds alike. It seeks to provide people with the opportunity to have concepts explained to them in their own time through video lessons. The 'curriculum', if you will, covers anything from the most basic foundations of mathematics to the most complex topics such as quantum mechanics⁶.

More formally, other institutions like Yale and Harvard Business School offer a variety of qualifications online, providing a business school education previously only accessible to the few. The ability to access the courses, content, lecturers and fellow students from anywhere in the world through video conferencing now adds the ever-important layer of the social connections you might have built in a real-life classroom. This new access fundamentally changes the structure of the institutions who were once the gatekeepers to knowledge, now unlocking opportunities for the next generation of learners.

In the five and a half years since Harvard Business School began their online offering, HBX, more than 40,000 students have taken a long-distance online course. Patrick Mullane, the executive director of Harvard Business School

1. Business Insider: *FLASHBACK: This Is What The First-Ever Website Looked Like*, 29 June 2011.

2. internetlivestats.com.

3. ITUNews: *New ITU statistics show more than half the world is now using the Internet*, 6 December 2018.

4. www.amnestyusa.org/is-internet-access-a-human-right

5. Unesco: *New Education Data for SDG 4 and More*, 26 September 2018.

6. <https://khanacademy.org/about>.

The control of information in the news has become a contentious issue with the rise of social media and the ability for anyone to share information, however enlightening or dangerous.

Online, says that their courses are the “next best thing” for students who are working full-time or can’t afford the usual business school fees. “We tend to get a sense that something can’t be transformational unless it’s a two-year residential programme,” adds Mullane. “But transformation really is in the eye of the beholder and we need to be cognisant of the way we think about it is not the same way others think about it.”⁷

This kind of accessibility to education supported by technological advances enables the development of young people globally in a way rarely seen before. The shift in power to anyone with an internet connection and curiosity has had remarkable effects on traditional power structures like government and the media.

Power shifts

The control of information, in the news too, has become a contentious issue with the rise of social media and the ability for anyone to share information, however enlightening or dangerous. Control of information used to be solely in the hands of news editors, politicians and large corporations. These gatekeepers decided what we ought to know and when we ought to know it, a powerful position that enabled them to shape and influence behaviour how they saw fit.

Gone are the days of Walter Cronkite, the CBS *Evening News* journalist in the 1960s, who has been credited for turning the American public against the Vietnam War. In 1968 Cronkite made his famous hour-long prime-time broadcast after which President Johnson is reported to have been so deflated by the broadcast that he said, “If I’ve lost Cronkite, I’ve lost Middle America.”⁸ Media analysts still discuss the broadcast today, demonstrating what a central role these powerful media figures once played.

Today, that power has shifted, as the internet and social media have given billions of people access to previously inaccessible information and a plurality of views and opinions. A media environment once dominated by a few powerful national broadcasters and newspapers has

fragmented as information dissemination has become democratised.

Traditionally people participated in the media either as active producers or passive viewers but now that distinction between creator and viewer has blurred. Social media has not only given access to information but also provided a platform for individuals to create and curate content instantly. The evolution of a platform like Twitter from a humble 140-character ‘micro-blogging’ site a decade ago to a powerful news source and community has enabled political movements all over the world. Twitter has become an integral part of our world, albeit sometimes as a punchline when discussing the tweeting behaviour of certain world leaders.

Look no further than the recent protests in Hong Kong. Fuelled by social media platforms, young people have been able to influence policies and change the course of their nation’s justice system in the face of a global powerhouse like China⁹.

Trust and confidence

The shift in power and instant news creation then begs the question of what news and information we are able to trust. When controls are removed, how do we know what we are seeing is true and representative? How do we apply our critical thinking ability, an already difficult and time-consuming task, to so much information?

Academics talk about how our working memories are limited and are best used when effectively applied to only the most essential information¹⁰. So, when we are assailed by information on a daily basis we are programmed to simply fall back on easy answers. It is becoming more difficult to apply our finite mental resources to a practically infinite flow of content.

Evidence is growing that this overload can narrow thinking. As we all grapple for a handhold in a world of information abundance it can generate a powerful herd instinct that suppresses doubt and nuance and encourages us to take sides without examining all the facts. It is a way of us exerting control and imposing order on a digital world that seems chaotic and confusing.

The paradox of our digitally connected world is that it is both easier to access information and yet harder to understand and trust what you see. With the worrying rise in fake news and ‘deepfake’ content on social media¹¹, challenging the validity of the content and source of opinion is vital.

Asking the right questions

As wealth managers who rely on information to make investment decisions, we take the issues surrounding information abundance very

7. www.forbes.com/sites/poetsandquants/2019/01/09/are-online-business-courses-worth-it/#ff4e1337e621

8. Washington Post: *Did the news media, led by Walter Cronkite, lose the war in Vietnam?*, 25 May 2018.

9. www.cnn.com/2019/06/13/hong-kong-protests-role-of-technology-and-china-censorship.html

10. Chandler, Paul and Sweller, John: *Cognitive Load Theory and the Format of Instruction*, *Cognition and Instruction*: 8(4) 1991, 293-332

11. www.theguardian.com/technology/2018/nov/12/deep-fakes-fake-news-truth

seriously. In a networked world where anyone can post anything online, it is important to exert quality control and critical thinking. Knowing how to interrogate data and identify credible sources is crucial. We believe it is our duty to constantly challenge ourselves about the way we think, the questions we ask, the information we source and our research process.

In our view, making informed decisions based on credible sources in a landscape of abundant information begins with knowing the right questions to ask. After all, the best information is only as good as the questions you ask of it.

Our team of analysts devise work plans that list essential questions we think we need to answer to determine whether an investment is worth pursuing. Sequencing those questions in order of importance helps to structure the decision-making process and ensure we aren't wasting valuable time on an investment that isn't ultimately going to make the grade.

When we first looked at the Nasdaq-listed Middleby, a recent addition to our portfolio, we examined its three main component parts: commercial foodservice equipment, food processing equipment and residential kitchen equipment. The commercial foodservice equipment division, which sells to restaurants, was by far the biggest contributor to operating profit, so we focused on that area first. We decided we would only move on to analyse the other two divisions if the first answered our questions satisfactorily.

The key questions we examined centred on the demand for Middleby's products and services, the competitive landscape in which it operates and how the company maintained its competitive advantage. We wanted to understand how Middleby used the acquisition of other businesses to create value – and whether it was likely to continue to do so. Finally, we explored whether management were guided by a long-term perspective.

As always, we made the decision about which questions to pose collectively. Once our analysts presented their work plan, our investment team scrutinised the questions we were asking and assessed if they were properly sequenced. Narrowing ourselves down in this way, to key questions and sequencing, ensures that we don't get distracted by data or sources that are irrelevant, misleading or of little consequence. This process is applied to all investment cases and gives us a framework to interrogate our information and sources in which we think is an intelligent and focused way.

Deepfake

A technique using technology to superimpose images and videos onto existing ones, creating a false impression that the edited version is the original image or video; also, the edited image or video itself.



www.collinsdictionary.com/submission/20322/deepfake

In Middleby's case we spoke to staff, competitors, end-customers, dealers and distributors, and attended a trade show to get a 360-degree view of the business. We focused on teasing out Middleby's true competitive advantages and why customers choose it over competitors. We also investigated its company culture, which as a piece of nuanced information, may not have been as easily and quickly available to us as it was through speaking to staff, suppliers and customers on LinkedIn, and viewing its online communication and sentiment.

The conclusion of our work on Middleby's commercial foodservice operation was that the company did meet our investment criteria. We initiated a small position and then continued our analysis on the remaining two divisions in the same manner before increasing our holding.

The power of data

Our approach helps us avoid 'analysis paralysis', the danger of being confronted by so many potential sources and pieces of information that one's ability to make a decision is stalled. Instead of being blinded by the sheer amount of data available to us, we seek to take advantage of that scale. Being able to rely on a greater quantity and diversity of information leaves our decision making less susceptible to bias. While the digital world can be overwhelming, more information combined with critical thinking can lead to better-informed decisions.

Technology gives us greater access to more unofficial sources of information – online professional networks, where we are able to research companies and gather opinions directly from employees and industry insiders. For instance, we can reach out to three equipment managers at major network groups at the click of a LinkedIn button, rather than trying to get through phone operators and secretaries!

Advances in the ability to store more data more cost-effectively, coupled with improvements in

processing power, have opened new avenues to extract valuable data and convert it into insight in a way that was almost impossible just a few years ago.

Our ongoing analysis of Ryanair, a long-term holding in our portfolios, is a good example of where we have used these improvements to our advantage. One of our main reasons for investing in Ryanair is the expectation that the low-cost airline will continue to lead on price on the routes it serves. The price advantage should support customer demand and overall profitability even as the airline market consolidates and air ticket prices increase.

In the past, to test our thesis, we would have had to manually check Ryanair's prices on different routes against those of its competitors through a limited set of sources. Analysing the 1,800 routes it operates on would have taken weeks and would have resulted in just a small sample of its 2,000 flights being analysed¹².

Instead, by using a data analyst who has developed a proprietary piece of software for us, we are able to interrogate all flight data for Ryanair and its competitors. This is creating a fuller picture of the landscape, enabling us to more effectively deduce trends and gauge market position by route. We will be able to factor this rich information into our analyses of the airline's future earnings potential.

Thus, using technology and our vast new world of information in this way, we are able to improve our productivity. Transforming a task that would have taken months, and been incomplete, to mere hours has freed up our days for further analysis. By putting technology to work, our people are more able to focus on building relationships and deepen their knowledge of our holdings or new opportunities.

Widening our perspective

We believe that our understanding and critical thinking ability is helped by looking at the bigger picture. Our research approach involves bottom-up research where we examine the fundamentals of businesses in fine detail. However, we also think deeply about broader macro trends and how they could impact our portfolios. Marrying the top-down, macro and bottom-up gives us a wider perspective, helping us to spot trends and changes in technology, for example, with the potential to disrupt industries and the market. Purely focusing on bottom-up research poses the risk that we would be unprepared for the impact of disruptive new technologies.

Our investment team read widely and engage with leaders at the forefront of emerging trends

Analysis paralysis

Analysis paralysis occurs when an individual becomes so lost in the process of examining and evaluating various points of data or factors for a problem that they are unable to make a decision with it.



www.investopedia.com/terms/a/analysisparalysis.asp

in industries and markets. In the team's weekly reading pack alongside company earnings reports, competitor analyses and market performance, we also include interesting articles in popular media, or books and more niche sources read by individual team members on topics as broad as blockchain technology or the impacts of palm oil.

We could easily get lost in rabbit holes in the face of a vast array of diverse and interesting topics. But ultimately, to manage our individual cognitive loads, we aim to be disciplined in our focus on what is important, why we are engaging in a topic and how best to spend our time and resources. When we are given an invaluable opportunity to sit in front of the senior management of a business we are analysing, our questions are planned and debated among the team well in advance to ensure the time is spent answering questions which can't be found from other sources available to us.

Conclusion

Digital innovation and the wall of information aren't going away or even slowing. The question has changed from "Where can I get information about this?", to "What should I be asking of this information?" If more people are gaining access to the same information, how are we as individuals and organisations keeping ahead of the pack with our unique views?

The ability to apply critical thought, challenge our opinions, and find diverse, truthful sources, are important skills needed to truly take advantage of the democratisation of marketplaces, global communities and new ideas afforded to us through technology and connectivity.

Beyond our professional networks and sources of information, we are privileged to have respected industry leaders and experts as our clients, whose opinions and consultation on holdings will always be one of our most important sources of information.

12. <https://corporate.ryanair.com/about-us/fact-and-figures/>

Notes

At Rothschild & Co Wealth Management we offer an objective long-term perspective on investing, structuring and safeguarding assets, to preserve and grow our clients' wealth.

We provide a comprehensive range of services to some of the world's wealthiest and most successful families, entrepreneurs, foundations and charities.

In an environment where short-term thinking often dominates, our long-term perspective sets us apart. We believe preservation first is the right approach to managing wealth.

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