Artificial intelligence

Implementing AI

A corporate's view

Artificial intelligence (AI) is one of the most talked-about topics in business today.

Companies across the world are looking at how they can use the technology – which mimics human problem-solving and decision-making processes – to operate more efficiently, pursue new revenue streams and interrogate their data more effectively. AI is set to have a far-reaching impact on sectors ranging from agriculture, education and finance, through to healthcare, manufacturing and retail. In this article, we explore some of the implications of AI for corporates, along with some potential use cases.

AI – the difference between theory and practice

There is a big gap between what AI is capable of in theory and how it is being used in practice. Today, many companies are very excited by the potential of AI to improve business processes and make sense of large volumes of data. Nevertheless, they must recognise that the technology is underpinned by fundamental mathematical rules that do not always translate well to the complex and fluid environment of the real world.

So, while algorithms perform very well in the bulk of use cases, they also have the potential to result in rare catastrophic failures that can't be predicted. This has particular implications for industries where human lives are at risk, such as aviation and automotive. Another issue is that algorithms don't adjust for bias in data, so if biased data is used as an input to the system, it will prejudice the results that come out.

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Furthermore, the right infrastructure is not in place to support many automated activities, machines and processes. For example, most transport networks are not yet ready to accommodate self-driving cars.

In addition to the practical challenges associated with AI, the technology also poses some ethical issues. These include the possibility that large numbers of people could lose their jobs if algorithms can do their work for them, and the potential use of automated weapons to cause mass destruction.

Cause for optimism

While there are challenges, AI also offers much to be optimistic about. Academics are working hard to develop AI techniques that can be commercialised, while the numerous potential use cases of AI are driving the growth of start-ups and increasing demand for AI skills, which is boosting the educational sector.

Positive sentiment around AI is increasing as people appreciate how the technology can be used to improve education and healthcare, and address major societal challenges such as inequality and pollution. A good example of AI being a force for good is Deep Patient, which was developed by researchers at Mount Sinai Hospital in New York. It augments the expertise of doctors by uncovering patterns in hospital data that indicate when people are at risk of disease.

How Alibaba uses data

Alibaba is a global leading technology company with the simple yet ambitious mission of making it easy to do business anywhere. Its businesses are comprised of core commerce, cloud computing, logistics, smart payments, digital media and entertainment, and other innovation initiatives. The Chinese-born group runs the B2C shopping mall Tmall, as well the internet marketplace Taobao. Alibaba works with around 150,000 different brands at any one time and has over 1.8 billion different products listed on its platforms.

In 2017, $768bn
in gross merchandise volume (GMV)
was transacted on the platform, with over
80% taking place on mobile.

On Singles Day 2017, China's biggest online shopping event of the year, Alibaba processed around 325,000 transactions per second at peak times.

Although it has a formidable reputation in eCommerce, Alibaba increasingly views itself as a technology business, leveraging digital applications in multiple ways. For example, it uses AI machine learning (simulating learning from experience) to detect fake branded goods on its platform and to automatically remove listings of items that are not authentic.

Every day, it analyses huge volumes of listings on its platforms, and automatically removes listings that it has identified as fake, based on multiple criteria.

As a result, Alibaba makes
x27 more proactive
than reactive takedowns on its sites, and
97% are made before there
has been a single sale.

Alibaba also uses a data-driven strategy in its innovative supermarket chain, Hema. Customers can choose to shop in the store – and even buy live lobsters and fish that are cooked while they wait – or from the comfort of their home or office, using an app. With the online service, a member of staff walks around the store, on the customer's behalf, in real-time so that groceries can be delivered within 30 minutes as long as the customer lives or works within a 3km radius. This also allows Hema to restock the store quickly and efficiently.

Another important initiative is Alibaba's Ling Shou Tong (Retail Integrated) platform, which is a powerful illustration of the company's New Retail strategy and how it is reshaping commerce, building the best possible and unique shopping experience for today's and tomorrow's consumers in China. Ling Shou Tong brings modern analytics and operations to

corner shops via an app that analyses consumer data, to make recommendations to store owners about what their customers are most likely to buy and how they should display goods. Store owners can also use the app to place orders that are fulfilled by Alibaba's warehouses, optimising inventory and operations along the value chain.

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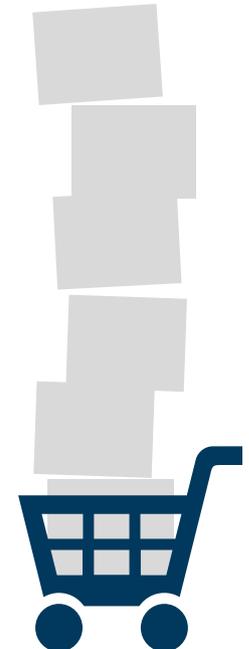
Applications of AI

AI is already being used for different applications:

Replacing passwords with a more sophisticated identity check system that uses data points such as swiping and typing behaviour, face recognition, device and location. Algorithms can monitor deviations from normal patterns to distinguish between genuine users and fraudsters.

Using historical customer service transcripts to give fast, accurate and out-of-hours responses, improving customer satisfaction, including the use of chatbots to save money on contact centres by reducing call volumes.
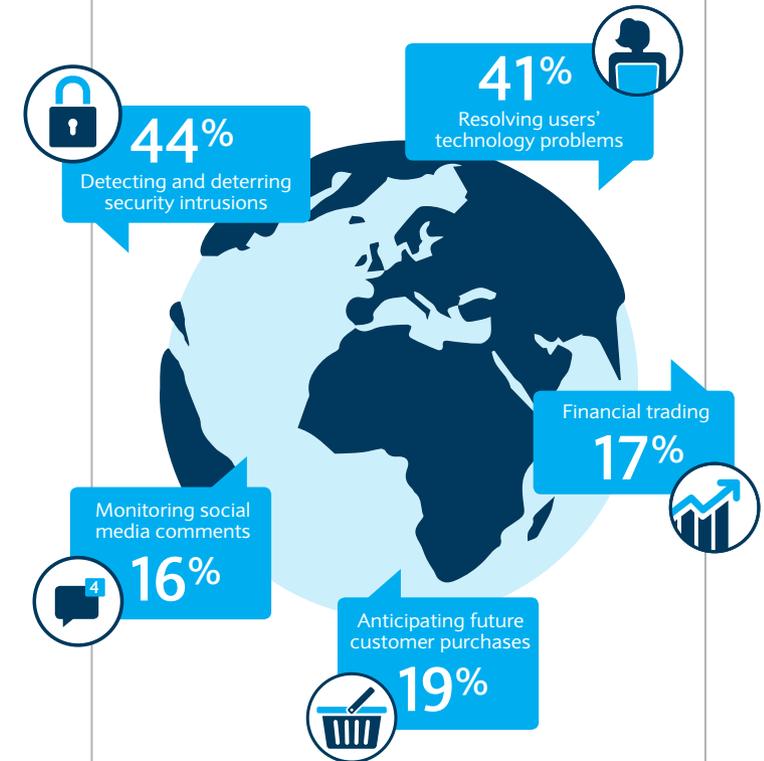
Aggregating and analysing news, social media and regulatory data, and applying machine learning to extract relevant information to inform decision-making.

Automating banks' fraud prevention processes, quantifying risks, extracting insights from markets and tailoring financial products to customer needs.

How are companies around the world using artificial intelligence?*

44%
Detecting and deterring security intrusions

41%
Resolving users' technology problems

Financial trading
17%

Monitoring social media comments
16%

Anticipating future customer purchases
19%

*Source: Tata Consultancy Services survey of 835 companies, 2017.