Data: this century's oil boom

The big challenge for businesses today is how to makes sense of the data they have. PHOTO: BLOOMBERG

Technology

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Big data is the current relatively amorphous buzz concept that has grabbed the attention of business over the last couple of years.

Yet while we suffer occasional bouts of paranoia concerning the data collection techniques of governments, Google, Facebook or Twitter, one man really led them all.

Amazon's Jeff Bezos, who exhorts employees with the phrase "This is still day one", understood that data was in many ways the oil of the 21st century.

Andreas Weigend, a former Amazon chief scientist and current lecturer at Stanford University and the Cheung Kong Graduate School of Business in China, the big challenge for business is figuring out who refines the oil (data) and how it will be refined.

Mr Weigend who has consulted to businesses and groups as diverse as Goldman Sachs, AT&T, Alibaba and the World Economic Forum will be presenting at Sydney's World Business Forum.

He says today's successful companies are able to make sense of their data because they are able to "quantify their model of customer delight."

"Data gives you all the answers so the challenge for business is to ask the right questions. The problem for many

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> Andreas Weigend

businesses is they don't know which questions to ask."

Though each company model differs, a fruitful starting point is to express strategic goals as concrete equations.

"It's a bit like a recipe where you have to weigh the ingredients like the flour and the sugar. It's relatively easy to find the right weight of ingredients as opposed to sitting and trying to agree what needs to be done."

One of the first things Mr Weigend asks companies when he's consulting is whether the product gets better with data or worse.

He says companies need to engineer their systems so they get better with data because ultimately it is all about helping people make better decisions.

"It's also easy to engineer minimisation because we want you to buy stuff you believe in."

It's the secret of Amazon, which markets itself as Earth's most customer-centric company – as it records every keystroke and page you click through in a bid to improve the user experience on

your next visit by customising you. Interestingly, being treated as an individual is more back to the future than a new-fangled idea.

Wind back the clock just over a century and a visit to the local grocery store to buy bread and milk or sugar and flour saw you treated as an individual.

The shopkeeper knew regular customers individually and would remember favoured purchases.

It was in the immediate aftermath of the industrial revolution and the advent of mass production that created the mass consumer.

The first Fords off the production line were built for the masses – in any colour as long it was black.

The only market segmentation was in the different levels of retail catalogues posted out to consumers.

Segmenting the market was expensive because everything had to be manually recorded and all the marketing collateral had to be sent by mail.

Data means those expensive constraints are no longer there.

For example, American Express employs a team of statisticians in the US who figure out what offers to show each individual based on their transactions over the last month.

"The market is no longer about segmentation by group but coming up with offers for individuals – from catalogue segments to individual segments once a month," Mr Weigend says.

"With mobile's shareability we can break up data further from a segment size of one to a segment size of one tenth.

"We can tell how far you have walked today, whether you're passing the shop and running late or early for work, which tells us you might be in the market for a cappuccino."

It's this level of tracking which does tend to make consumers (especially in Western nations) a little skittish.

In the wake of **Edward Snowden**'s revelations many people are worried about the amount of personal data they're sharing.

Mr Weigend agrees we need to have a debate on the level of data being retained but he says we do tend to worry more about the rare downside risk than we do the long-term benefits.

"There is no black and white answer it's all very grey.

"We have to ask ourselves what sort of society do we want to engineer and what are the potential downside risks of someone sharing our data," he says.

"I want to help consumers make decisions in an informed way because it is very tricky.

"We need to ask what are the level of secrets and which level of granularity we want – do we want to be seen as an individual or as just another citizen?

"Do we want to be seen as a person who sits next to another guy in the office who bought the same book or would you rather order anonymously as an individual?"

A key point for Mr Weigend is data has always been available; it's just the economics of data and surveillance that have changed.

For example, a century ago your every move could have been tracked, by a team of private eyes, but it was prohib-

Companies slow to capitalise on big data opportunities

More than half of companies in the Asia Pacific region don't really understand what big data means and the majority have been slow to adopt big data strategies according to a report undertaken by The Economist Intelligence Unit last year.

Commissioned by Hitachi Data Systems, the *Hype and the Hope* report found while organisations in the Asia Pacific lagged behind, around 70 per cent of those surveyed believed data would improve productivity, innovation and profitability in their companies. Moreover, nearly half suggested big data would boost profits by 25 per cent or more.

Unfortunately, nearly 90 per cent blame internal factors for the slow adoption of big data strategies with a lack of communication seen as the biggest hindrance.

According to Hitachi Data Systems Asia Pacific Chief Technology Officer, Adrian De Luca, Australia has been particularly slow to adopt although the time is right now.

While data has always been around, De Luca says with technology now commoditised (and available to all), the real point of difference for business and government is the ability to garner such an enormous amount of data intelligence. In business this is especially true for highly competitive industries such as finance and retail.

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> Mike Sha, SigFig co-founder

"Industries where making 2 per cent to 4 per cent difference makes a lot of difference," De Luca says.

A good example of a company finding incremental differences and shaking up an industry through data is US online investment adviser SigFig which has grown rapidly to a point where the platform now attracts around $US200 billion in assets.

Amazon alumnus and SigFig co-founder Mike Sha says the product simply analyses individual investment portfolios in a transparent manner using technology.

"Basically we have a website, mobile app and a tablet app. The first thing users do is link all their brokerage accounts. We download all their data and take a data-driven scientific approach to analyse their portfolio.

"We can then tell you what you're doing wrong and what you can do better," Sha says.

He says what SigFig usually finds is most people have totally "messed-up" portfolios.

"Each person's data is analysed immediately 'on the fly' using technology. It does take away from the idea that there is a dark art to investing.

"Historically this was true to an extent but it's not a dark art today. Getting into a low-cost, diversified portfolio is relatively easy, especially if you're investing in fair and transparent capital markets such as the US or Australia."

Sha says rather than making enemies of traditional brokerages, SigFig works with all major US brokerages.

"SigFig also has large major distribution partners in the US where we power portfolio tools for third parties such as Yahoo, CNN, US Today and AOL. We integrate across their websites and apps with the same product as our users.

"What we're doing is getting people to take action with their investments by providing a very simple service driven by technology and data. It's an industry that's pretty easy to improve because the bar is set pretty low, especially here in the US."

itively expensive. Nowadays, every time your mobile rings it's providing data of your exact location to your phone company. And it costs virtually nothing.

In some ways, the level of data available does virtually render government census obsolete.

Mr Weigend cites the examples of Tencent's Wechat service and Alibaba in China, both of whom probably know more block-by-block about Chinese consumers than the government.

"In the UK, Tesco has better data than the census."

Yet while business and consumers do have a lot of questions to ask about data collection and its use there are plenty of examples where better data collection does lead to a better customer experience.

Mr Weigend believes Amazon is a great example, because Jeff Bezos understands the constraints of the past no longer apply.

Hotel booking site Agoda uses data

constructively rather than just pushing rooms to consumers.

"Hotel inventory is extremely perishable and it makes short-term sense to just push excess inventory but we found that we're better off really trying to show people what they're looking for because user acquisition costs are high.

"It's easy to optimise things short-term and screw up on the long-term.

"We also started to differentiate between good clicks and bad clicks. Traditionally, if people click that is a good thing but if it was a short click we were clearly not giving consumers what they wanted while a long click meant they were engaging with a property," he said.

Weigend already sees plenty of simple examples of how sharing data works.

"I recently saw an offering in San Francisco where as you drive to the airport you can organise to rent your car while you're away. So simple.

"The company knows when you'll be

back and they can match your car to someone who has just arrived.

"They know when you're back and they can make sure your car is there when you return.

"Suddenly, what used to be a cost is a potential money maker.

"I could see a car rental business like Hertz or Avis offering car-sharing where you let your car to them as a management company and they just ensure your car or a replacement is there on return.

"It would save on their fleet costs and it's matching data with needs."

Weigend mentions US finance start-up SigFig (see related report) as another company shaking up an industry through better use of data.

As for advice to business, Weigend says some companies and organisations use big data to not make decisions.

Business needs to make decisions and act rather than wait for more data.

"There should be no analysis paralysis." he concluded.