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Magazine of the Institute of Directors in New Zealand

THE DATA ISSUE

Frances Valintine talks about how to keep up in a changing world



A World of Data

Big data, data governance, artificial intelligence, analytics, data privacy, new legislation and international regulations – there's a lot to get your head around.

The Institute of Directors (IoD) is here to help with A World of Data, our final What Matters theme for 2018. We've arranged a series of events, courses and publications to help you get to grips with what you need to know.

Branch events

We're hosting branch events around the country on topics ranging from the dark web to data governance and cyber security. Check out our events page in *BoardRoom* or **iod.org.nz** for full details of what's on offer.

Podcast

PRIVACY COMMISSIONER JOHN EDWARDS has joined us for a podcast, delving into the privacy issues you need to be aware of.

Webcast

A WORLD OF DATA PANEL with panellists Ben Kepes, Joanna Perry and Sam Knowles, facilitated by IoD Chief Executive Kirsten Patterson (2 CPD points)

14 November | 5.30pm - 7.30pm

Webinars

DATA PRIVACY with Richard Wells, Partner – Corporate and Commercial, MinterEllisonRuddWatts (2 CPD points)

22 November | 10.30am - 11.30am

DATA GOVERNANCE with Alison Holt (2 CPD points) 14 December | 10.30am - 11.30am

Webinars cost \$200 inc GST for members, \$245 inc GST for non-members.

Publications

Resources include this themed edition of *BoardRoom* and upcoming publications from our Governance Leadership Centre, including a guide on *Reporting cybersecurity to boards*, with sample dashboards.



For more information about **A World of Data** events and resources, go to **iod.org.nz/what-matters**

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TECH FUTURES LAB®





A note from the editor

This issue we explore our final What Matters theme for 2018, A World of Data. We look at data governance, big data, open data, data governance, privacy issues, artificial intelligence, cyber security and the dark web.

Futurist Frances Valintine offers her views on what the future of work might look like, and says future-proofing your career might be a matter of taking sabbaticals every few years to upskill and keep current.

Looking after the huge amounts of data your organisation collects is a growing challenge for directors. Dame Diane Robertson, from the Data Futures Partnership, talks about what directors need to be thinking about in terms of data governance.

Safeguarding the privacy of your staff, shareholders and other stakeholders is another responsibility. Privacy Commissioner John Edwards talks through the main proposed changes in the Privacy Bill, and says the new legislation could herald a sea-change in the business world, in much the same way the health and safety reforms did.

We also delve into the murky world of the dark web. If your website or system is hacked, chances are this is where your data will end up.

The underlying message from all of the people we've spoken to this issue is to be alert, but not alarmed by the changes that technology has brought and will continue to bring. Don't fear the changes, but embrace them and all the opportunities that come with them.

Kate Geenty BoardRoom editor



October/November 2018

The Agenda



FRANCES VALINTINE / How to future proof your career in the technological age

> SAM THE VIRTUAL POLITICIAN / Would you vote



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boardroom

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BoardRoom is designed to inform and stimulate discussion in the director community, but opinions expressed do not reflect IoD policy unless explicitly stated.

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For a full list of branch managers, see *page 48*.

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Human rights and business during times of industrial revolution



KIRSTEN PATTERSON CEO, INSTITUTE OF DIRECTORS

Lost track of which industrial revolution we are up to? According to the World Economic Forum it's the fourth. They define the fourth industrial revolution as building on the digital revolution, representing new ways in which technology becomes embedded within societies and even the human body.

Every industrial revolution has significantly impacted on our communities and changed the face of work and labour. Each shift has had global impacts on capital allocation and economic prosperity. Worryingly, however, another theme from each revolution is how our systems and regulators have struggled to keep up with abuse and/or unintended consequences.

At first glance the links between the first industrial revolution and the challenges of today seem tenuous. However, looking back at the first industrial revolution and the move to factories and machines, there are some salient lessons we would do well to heed in today's era of digital and data disruption.

Although the first industrial revolution began in 1760, it wasn't until 1802 that legislation was first introduced to address child labour conditions and health and safety requirements. It wasn't until 1833 that legislation was passed prohibiting children under the age of nine from working in the factories. Health and safety and the 'duty of care' to workers wasn't established in common law until 1837. Far too late for the thousands of children and other workers killed, maimed, or suffering from occupational diseases.

Although the challenges of the fourth industrial revolution are not life or death, our regulators are similarly struggling to keep ahead of business use and the impact on the protection of individuals, whether it's cryptocurrencies, ethics in AI, geonome editing, or even the human right to privacy.

As Klaus Schwab, Founder and Executive Chairman, World Economic Forum has expressed: "We must develop a comprehensive and globally shared view of how technology is affecting our lives and reshaping our economic, social, cultural, and human environments. There has never been a time of greater promise, or greater peril."

'Data is the new oil' is one of the new mantras, but just as the oil of yesterday was found to have impacts on the environment requiring protection, the data of today is linked to people and to communities.

Article 12 of the United Nations Universal Declaration of Human Rights adopted in 1948 makes interesting reading in today's social media world: "No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks."

The results from our Director Sentiment Survey at the end of 2017 was that data governance and the use of data analytics to drive performance and strategic opportunities had only been discussed by 50 per cent of boards in the past 12 months. Early analysis from the 2018 survey shows this has lifted to 56 per cent.

The world is in a period of exponential change. It will require directors who engage in innovative thinking, agility– and sound risk management. It will require leaders who are visionary, who can look to the developments that are occurring overseas and translate them back to their meaning back home.

New Zealand faces the challenge of being a small and relatively isolated economy that is dependent on global markets. The digital environment is creating a global playing field where this disruption can move between borders easily, threatening established business models.

Interestingly, the arguments against increased regulation of the revolution have also changed little in almost 200 years. In 1844 Lord Shaftesbury spoke in the UK House of Commons in support of limiting children's maximum working hours to 10 per day. He commented that with all that had been written and said on the subject, he could discover no more than four arguments urged by opponents against the measure:

- 1. That the passing of a 10 hours' bill would cause a diminution of produce.
- That there would take place a reduction, in the same proportion, of the value of the fixed capital employed in the trade.
- That a diminution of wages would ensue, to the great injury of the workmen.
- 4. A rise of price, and consequent peril of foreign competition.

Business has always been the early adopter of technology and the early guardian of its use and impact. Just as health and safety is now a core governance responsibility, data and privacy are our governance challenges of today.

The 2018 Edelman Trust Barometer asked consumers what they felt was the top trust-building mandate for business-the answer may surprise you:

The expectation that you will protect my privacy and keep my data safe.

We've all heard about Cambridge Analytica and the approximately US\$40 billion impact on Facebook value over data privacy concerns. Maybe we shouldn't be surprised about the Edelman results after all.

Although he was paraphrasing others, Winston Churchill perhaps summarised it best–"Those that fail to learn from history are doomed to repeat it."

Kirsten (KP)

UpFront

Director

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Role: Chairperson and Trustees Location: Parakai Closing date: 12 November

THE ORPHEUS CHOIR

OF WELLINGTON Role: Board Member Location: Wellington Closing date: 18 November

KARORI COMMUNITY CENTRE

Role: Board members (3) Location: Wellington Closing date: 25 November



APPOINTMENTS

Barbara Chapman

Chartered Member, has been appointed Chair of Genesis Energy. She has also been appointed to the Reserve Bank Review Panel.

Hon. Chester Borrows, QSO Member, has been appointed Deputy Chair of the Veterans' Advisory Board.

Stuart McLauchlan Chartered Fellow, has been appointed to the board of Argosy Property.

Belinda Moffat Member, has been appointed to the Reserve Bank Review Panel.

Karen Price

Chartered Member, has been appointed to the board of Aqualinc Research, via the IoD's DirectorSearch appointment service.

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Up**Front**

Lyn Provost, CNZM Member, has been appointed to the Education New Zealand board.

Glen Scanlon

Has been appointed as a Future Director on the Zealandia board, as part of the IoD's Future Directors programme.

Teresa Steele-Rika

Has been appointed as a Future Director on the board of Scales Corporation, as part of the IoD's Future Directors programme.

Sally Webb, ONZM Member, has been appointed Chair of the Waikato District Health Board.

Adrienne Young-Cooper

Chartered Fellow, has been appointed Chair of Auckland Council's urban redevelopment agency, Panuku Development Auckland.

PRIVACY RESOURCES 📀

The Privacy Commission has a range of resources to help you get your head around your privacy responsibilities. This includes 30 minute online courses, an Ask Us database of everyday privacy questions, as well as a live chat tool and online enquiries button on its website. The Commission also awards the Privacy Trust Mark. which recognises privacy excellence of particular products and services. For more information on the Privacy Commission's resources, visit its website privacy.org.nz. To read an interview with Privacy Commissioner John Edwards, turn to page 25.

PONDER THIS:

The number of devices connected to the internet is set to rise to an estimated 100 billion by 2030, up from 8 billion today.

Source: The Data Privacy Puzzle by Cornerstone Capital Group and the Investor Research Responsibility Centre Institute

IOD BY THE NUMBERS: (As at 31 August 2018):

8,908

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1,310 Chartered Members and Chartered Fellows

117 Members passed the Chartered Members Assessment between January and August 2018

Percentage of new members in 2018

39% Female 61% Male

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DIVERSE THINKING IN THE BOARDROOM

The Superdiversity Centre released Diverse Thinking Capability Audit in New Zealand Boardrooms 2018 in August. More than 60 of New Zealand's top chairs, directors and governance professionals shared their insights for the report, including IoD President Liz Coutts and IoD Chief Executive Kirsten Patterson (KP). Here are some of KP's key quotes from the report:

Creating an inclusive culture on boards

"Creating an inclusive culture is key and there is much work to be done. The first step for getting diverse thinking on boards is to create an inclusive culture. But attention has instead gone to Step 3 (board composition) and Step 4 (appointing diverse talent), or debates on Step 5 (targets). To get the real and significant value from diversity, we need to ensure we don't skip Step 1."

Measuring diverse thinking

"The complexities of leveraging and getting the best out of diverse thinking is a growing area of interest in board reviews. While there is research supporting the difference diversity makes, we need to start discussing what 'difference' to performance means and how we measure it. Is it just shortterm share price or are we measuring innovation and long-term value creation?"

Critical mass of diverse thinkers

"There needs to be a critical mass of diverse directors to be influential, as even senior directors find it hard to challenge and to have their voices heard."

IOD SENTIMENT SURVEY

The IoD's annual Director Sentiment Survey will be released in November. Thank you to everyone who took part. In the meantime, if you're interested in seeing what global directors are thinking about governance issues, take a look at the results of the inaugural GNDI (Global Network of Director Institutes) Global Director Survey on page 35.

Q: Organisations and people who have experienced a cyberattack can report it to which government body?

A. Department of Internal Affairs B. CERT NZ C. NZ Cybersecurity Inc. D. Ministry of Justice

B. CERT NZ (Computer Emergency Response Team)



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Dame Diane Robertson

Businesses have access to an everincreasing array of information about staff, customers and other stakeholders. The responsibility of overseeing a strategy to look after, and best utilise, that data lies with the board. ata governance should be a fundamental part of directors' skill sets, says Dame Diane Robertson, Chair of the Data Futures Partnership, an independent ministerial advisory group which was set up in 2015.

DATA GOVERNANCE VS DATA MANAGEMENT

Some boards confuse data governance with data management, says Dame Diane. "I refer to governance of data rather than data governance. I think we need to make that shift. Every time I hear data governance I hear security, safety, development of databases, technology, all of those sorts of things; I don't hear how we are managing the data itself and I don't hear what we're going to do with the data."

She prefers to use the term data management for the things management should be looking after, and data governance for the things boards are responsible for. So, the governance of data refers to the oversight that boards provide over their management's stewardship of data.

DETERMINING DATA STRATEGY

The push for strong data governance is coming from a variety of sources: commercial and regulatory pressures, rapidly changing technology and a decline in trust from stakeholders. These pressures mean that boards can't afford to just tack data governance onto the end of their to-do list; it needs to be prioritised, says Dame Diane. "More and more so, data is the biggest asset that we've got, so we shouldn't be seeing this as an extra on top of everything else. We should be seeing it as everything."

When a board starts thinking about the governance of data, Dame Diane says they need to take their organisation's values and strategy as a starting point, and tailor a data strategy that best serves these. "When you're determining a strategy for your organisation, it won't be the same as someone else's organisation. One of the things that boards need to do is think about data in relation to their purpose and values. That is the starting point and it will be different for every organisation." •••One of the things that boards need to do is think about data in relation to their purpose and values. That is the starting point and it will be different for every organisation.**

Once you've designed a data governance strategy that fits the overall purpose and goals of your organisation, then she says it's a matter of applying standard governance practices of oversight, monitoring performance, holding management to account, and ensuring compliance.

A NEW MIND SET

Dame Diane says many of the directors and executives the Data Futures Partnership has spoken to over the past couple of years had never thought about data governance before. "But I don't think it's a sin of omission. It's a step up to thinking in a different way."

She says boards are very focused on skills like finance, health and safety and infrastructure. "This is something new for directors to get their heads around."

However, it's not something she thinks needs to become a hugely complicated compliance issue. "The majority of organisations we speak to have really good oversight of their data and they have good controls and policies in place. We're not saying you suddenly have to do a whole bunch of other things. We're saying you need to be providing the oversight for this."

Boards deal in data all of the time, they just may not consider what they're dealing with as data. "If you change the word data to information, it's a different way of thinking," Dame Diane says. "They don't bring the money to the board meeting. They don't bring the buildings to the board meeting. They bring the information around it. That's what a board's major role is, to deal with the information around an organisation." Dame Diane says a rethink on how organisations are already using data is also necessary. Sometimes companies are giving away data without thinking about it. "Every board I know has really good policies around privacy and HR, but then you ask 'do you sell your HR data?' and they go 'no, we wouldn't do that'. So then you ask 'well do you participate in salary surveys?' and yes they do. So they don't sell their data, they just give it away."

CONSIDER BOARD COMPOSITION

Directors' responsibilities are to maximise the value, manage the risk and oversee what is happening in their organisation. Boards need to reflect a mixture of skills and expertise that will enable them to provide a strategic oversight of their organisation.

In some cases, it might mean rethinking the make-up of your board. "For some organisations it might be about bringing someone onto the board who is an ethicist around data, it may be someone who has data governance skills to enhance that in the board itself. In the same way as you bring on expert finance people and legal people," says Dame Diane. ()



What questions do directors need to be asking?

A KPMG report *Board's eye view of data and analytics*, released last year, says boards and audit committees need to have a holistic view of their organisation's strategy around data and analytics–specifically what data is collected, how it is used and who oversees that effort. The report outlined some key questions for directors to consider around data and analytics:

How is the data being collected and organised within the company and who is involved? Ultimately who is responsible?

Can the data be trusted? How is the quality and integrity of the data assessed?

Does the company have a data ethics policy to protect the brand reputation and reduce legal risk?

Does the company have the right talent, skills and resources required to implement/manage its data and analytics activities?

Has the company scoped out the near-term and longer-term opportunities for its use of data and analytics, including financial reporting and predictive analytics?

Are current and future business challenges being effectively aligned with the right data and technology solutions?

Has management assessed the data infrastructure and the data available to drive the digital strategy? Who is accountable for data decisions and the associated risks?

Has management assessed the ability of the IT infrastructure to support these advanced technologies?

What is the current workforce's skill set? Where does it need to be?

Has an appropriate governance structure been put in place, including the board and its committees, to manage such innovation and change?

Treating data as a treasure Māori data governance

Māori data is a taonga that needs to be considered through the lens of the Treaty of Waitangi, says Māui Hudson, associate professor at the University of Waikato, and part of the working group for Te Mana Raraunga, the Māori Data Sovereignty Network.

In terms of thinking around data sovereignty, it's about exploring what are the rights and interests in relation to data that's collected from Māori, about Māori, or the resources that Māori have interests in." Hudson says.

Hudson is hoping to collaborate with data science and management researchers to explore ways to value Māori data within organisations. "It will be very exploratory in many ways, but it will start moving the discussion from conceptual talk around rights and interests into discussions about governance issues and operational decisions."

He thinks there will be a time when organisations and their boards will need cultural experts to advise them on how to handle their data. "As organisations grapple with the issues around protecting data and extracting value from data, particularly in New Zealand, they will be increasingly subject to challenges about doing it in a culturally appropriate way and doing it with integrity. That may require some specialist advice or skills to support that coming about."

DATA AS A TAONGA

Hudson says data can be looked at as a taonga-meaning it's protected under the Treaty of Waitangi. Taonga can be thought about in a number of different ways. "One is at a philosophical level. Every piece of data connects to people and therefore it has importance. Another is a more practical interpretation where taonga relate to those sets of sensitive data that require active management." In terms of determining what kind of data is likely to be viewed as taonga, he uses a forest analogy. "All parts of a forest are important in their own way, but within that environment there are really special things. So there will always be particular types of information which groups might feel more connected to and sensitive about."

Three characteristics can be associated with taonga datasets:

provenance

opportunity

Some datasets are significant because of where they come from, 'whakapapa or cultural knowledge'. Other datasets are important because of the opportunities connected to data. "There could be a whole lot of data that creates opportunities for us which we want some sort of management or control around."

Another way data can be viewed as a taonga is its utility. "If it's data that can be used in a whole variety of different ways we've probably got more interest in understanding what those pathways might be and whether or not we need



Māui Hudson



utility



to manage those. If it's something that's only got one particular purpose then you'll be less likely to be worried that it might be used in ways you don't agree with."

SOCIAL LICENCE

The government and corporate boards are already having conversations about their social licence around data use. "I see social licence as being part of the social contract that the government has with its citizens about the things it can do on their behalf," says Hudson. "Data linkage, data sharing, the open data space, have all started to move people's ideas around what data can be used for."

"People's ideas have shifted from data

^eEvery piece of data connects to people and therefore it has importance."

being collected for one purpose and only being used for that purpose. Those kinds of boundaries are breaking down and as data shifts into use in other places you've got to renegotiate the nature of the contract and it's important that Māori are a part of those conversations," Hudson says.

CULTURAL LICENCE

Hudson says the concept of a social licence covers how individuals feel about an issue, whereas when looking at it from a Māori perspective, a collective view or cultural licence also needs to be considered. "It's the contract that exists between the Crown and iwi around

the nature of their relationships and what they can do. That's a different sort of thing because it's not thinking about individuals and the responsibility towards individuals-which tends to be characterised as consent-but it's about the group and what can you do on behalf of the group? Have you got some sort of permission or authority from that group to do things with their collective data?"

"This is where we see it plaving out differently because you're not necessarily talking to the individual members of the group, but you're talking to the people with authority. This is where the governance part starts to have more of a bearing on the conversation. Māori data sovereignty is really the conversation about the rights and interests, but these rights and interests get operationalised through Māori data governance."

He says deciding who needs to be part of the conversations around governance and sovereignty will depend on what sort of group you're working with. "So in an iwi setting the conversation will be with iwi leadership, but there could be other kinds of groupings or collectives that might have interests in how information is being used, particularly when it's talking about them."

He admits that one of the challenging things about having conversations around Māori data sovereignty is that in many cases data is not an exclusive relationship, it might belong to several different people or it might be intellectual property. "In this space we're dealing with data that other people are holding and you're talking to them about appropriate use. This is why it comes back to governance, it's about data access, it's about the protocols and principles around boundaries that get put in place around what sorts of things it can be used for."

HOW DATA IS USED

Data is being used as the basis of all sorts of decisions, many with far-reaching consequences, meaning it's important that Māori are consulted and represented. "Certainly in the government space, we're really aware that data is increasingly being used to make decisions about where resources are allocated. So the quality of the data will relate to the quality of the decision making. If the data isn't being collected in a way that represents Māori world views they are unlikely to make great decisions that support Māori aspirations," Hudson says.

THE RATE OF CHANGE

Conversations around Māori data governance are already happening at a government level and throughout government agencies. "I can see it already within the government space, partly because of their responsibilities to citizens and the Treaty, agencies are having to address the issue of Māori data sovereignty and Māori data governance. It's all caught up in their trust and accountability and their role as the government."

He says thinking about data from a Treaty point of view is much more challenging at a corporate level than at a government level, but that eventually it will flow through to the corporate world. "With other [non-government] groups it's probably going to depend on the nature of the relationship they need to have with Māori or iwi groups to deliver their businesses and the types of information that they are working with. In the future Māori Data Sovereignty is likely to become a strand of corporate social responsibility."



Are you a Samurai or a Ninja?

Exponential changes in technology are transforming the business world and the way we work. Artificial intelligence, big data, open data, virtual reality–everything is now underpinned by technology, and keeping up with constant advances is a huge challenge. Many of us can't begin to fathom what the future will look like even two years down the track.

What we imagine is that business is still linear, because most of our lives have been lived within linear frameworks. That meant we could sort of predict what would happen next year, because it was likely to be an incremental advance on last year-no real gear-change needed. That doesn't really apply any more," says futurist Frances Valintine CNZM, the Founder and Chair of tech education companies The Mind Lab and Tech Futures Lab.

Valintine thinks the recent drop in business confidence has a lot to do with a growing unease about the future and the changes that are afoot. "People can see it, taste it, and feel that something is changing, but they can't quite put their finger on what to do."

She likens old-school, traditional corporates to Samurais. "They are holding onto the old ways and to welltrodden traditions, and where familiarity feels safe."

New companies tend to be more nimble, positioned from day one to be agile and responsive to change. "They are the Ninjas who come in by stealth. They operate under new business models and are underpinned by digital and incumbents don't see them coming. It's not that these startups are deliberately trying to be invisible, it's just the way they operate. They come in, and they're fast and responsive."

As the world innovates and changes at break-neck speed, the ability to pivot when situations change and to recognise when you need new knowledge and different forms of experience is a key feature of attaining 'Ninja' status. "Redundant knowledge is hard to replace if you're not accepting that some of the choices you're trading on, some of the knowledge you're utilising, is no longer best practice and not contemporary in terms of what is now possible. If you recognise that you have knowledge gaps, you'll look for ways to plug that gap, whether that is developing your own skill set or finding other people to plug that gap," says Valintine.

THE NEED FOR TECH EXPERTS ON BOARDS

In order to keep pace with technological changes, Valintine would like to see permanent technology advisors on corporate boards. Failing that, she says boards need to have two or three advisors regularly attend board meetings. "That way there is consistency, they get to really know the business and can come in and advise. Having a consultant pop in for a one-hour overview is not going to change the culture or the expectations of a board to make some big, bold or risky moves."

Hearing a range of opinions and advice is important, so she doesn't think having one tech expert on or advising a board is enough; there needs to be a range of opinions and advice. "For me, it's all about making sure there are enough people focused digital technologies and future impact. It's a bit like having a token female-one female does not represent the views of all women, and with technology it's the same thing. You need to have enough skilled people who can drive technology conversations so that people really deeply understand the importance of decisions being made. If one person is holding the conversation, debate will not occur and change will not happen. I think more and more people are trying to find those skillsets for boards, and also raise the level of understanding within boards but greater emphasis is still needed." >>

New companies tend to be more nimble, positioned from day one to be agile and responsive to change. They are the Ninjas.

Frances Valintine, CNZM

BALANCING RISK AND THE NEED FOR CHANGE

What Matters

Valintine says the legal liabilities directors face can make taking risky decisions unattractive. "Boards of directors are highly accountable for the decisions they make... So, for example, you decide to move your whole organisation to become Agile, like Spark has, there has to be an acceptance that there are risks. Typically, boards take the more conservative route, which in today's fast-moving world is potentially the riskiest route of all."

She thinks people in governance roles need to work out how to balance the need to do things differently against the risk of implementing changes. "The challenge is between realising 'if we stay as we are our future will look very grim and our returns to shareholders will diminish and eventually we will be no more'. Or, 'we take risks and we tell shareholders that dividends aren't going to be pretty for a little while, but we're going to be able to navigate through this change and come out transformed in a good way, and continue with the market that we see, but also potentially take on new opportunities'."

THE CHANGING WORKFORCE

Valintine says there's a skills gap in New Zealand, with a lack of knowledge and experience around these new and emerging technologies. "There's so little expertise that the people who do know it are almost exclusively contractors because they don't want to work within the confines of a single organisation."

This means employers have to get used to the fact that people working for them may also be working with their competitors. "That's the nature of contracting and we have to get comfortable with that. For example, if you're a bank you have to be comfortable knowing that Bank A is getting the same advice as Bank B from the same person, while the unique context and the information would stay contained within each organisation. That's quite a different situation from the past where we've been able to hire permanent full-time employees."

This gig economy is being driven by millennial workers, who already make up half of the workforce in New Zealand. "This new generation don't aspire to work in a fulltime permanent position the way previous generations did, that's not part of their DNA. They don't understand the attraction in that. They want variety, and as well as paying the bills, they want to work on projects that mean something. It's a much more holistic and value-based way of looking at what it means to work."

She thinks people who are mid-career are probably the most vulnerable in terms of their future career, as their entire schooling, education and the majority of their experience is from pre-digital times. "If they've come into a senior level and maybe even a governance role,

Perspectives, ideas and innovation that will shape the future



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they are still trading on the capability they've had from those analogue environments. While experience is really important, and networks are really important, we also need to have deep understanding of macro-changes and advances to identify what are the big technologies that are coming in and shaking the ground beneath us."

HOW TO KEEP UP AND THRIVE

Valintine says, despite the huge changes afoot, there is no need to fear the future. Instead, there are endless benefits and possibilities created by technological advances, but it takes a real commitment to re-education and upskilling.

"Take a few months off every few years to do some professional development so that you build longevity into your capabilities. So that when you're on a board and you're talking about digital transformation, you're talking about it from a highly informed view. You've done case studies, you've worked alongside companies that have gone through transformation or have created start-ups so that you really understand what is needed, from a practical standpoint as opposed to saying we're just going to let the IT guys or the digital department figure that one out for us."

The idea of taking time out of the workforce may be daunting for a professional with a mortgage and family obligations, but the payoff will come in future-proofing your career. "If you're sitting in a role where you've become accustomed to a certain amount of privilege and a good salary and a great lifestyle, to go back to learn can feel like a backwards step... Instead there should be nothing but admiration for people who commit to reskilling. It should be one of those things where people go 'wow, that's amazing, you're taking time out to get your head around the stuff that your company can do really well'."

To enable and encourage ongoing learning, Valintine thinks New Zealand needs more options when it comes to technology education. "So people who want to do intense short courses can have options, we need to look at online courses, sabbaticals, working inside startups as well as traditional institutes. The flexibility

One of Valintine's businesses, The Mind Lab, is currently upskilling New Zealand teachers.

These teachers are studying digital technology so they can teach it. "If the teaching workforce, who are not financially incentivised to keep learning while they are working, are prepared to step up and give their valuable time to preparing themselves for the future then the business world need to take note and follow suit. How can you do your job without the right knowledge? If teachers can do it, we can all do it."

teachers in the country have completed a one-year part-time programme with her organisation.



is the average age of teachers in New Zealand.

of learning is that we need adults to go back and learn, not just our kids."

In August, Tech Futures Lab launched Digital Suitcase, an online platform that teaches adults critical digital knowledge. (See the inside front cover of this issue for a special Digital Suitcase offer for IoD members.)

Take a few months off every few years to do some professional development so that you build longevity into your capabilities.



Source: Russian business leaders with creative entrepreneur Qiane Matata-Sipu at The Mind Lab, Auckland. Photo: Olja Latinovic

Cyber Risk: What's new on the menu?

It seems that we are dealing with a new form of cybercrime on a very regular basis-one day its ransomware, the next it's invoicing interception fraud-and businesses, regulators and government bodies around the world are struggling to keep up with the pace of change.

rom an insurance and risk perspective, cyber exposure is a different beast compared to other lines of risk. Fire and general exposures, for example, are relatively known quantities with the root cause of a loss hardly changing much over the decades. Liability risks, such as Professional Indemnity and Directors and Officers Liability, adapt as a result of claims trends and vary in complexity depending on your area of business-but the core essence of these risks and where the claims are coming from are relatively known quantities.

With cyber risk, we are dealing with constantly evolving threats which can grind entire businesses, supply-chains and industries to a complete halt with a literal push of a button. In 2017, we witnessed the WannaCry and NotPetya ransomware attacks infecting over hundreds of thousands of computers around the world, making them two of the largest single-act cyber events to date. The White House has estimated approximately US\$10 billion in total damages from NotPetya alone⁽¹⁾. This year we are seeing a rise in Cryptojacking events due to the rise of cryptocurrencies-this is a method of essentially hijacking an organisation's

computer server horsepower to 'mine' cryptocurrency for a cyber threat actor. Additionally, invoice interception fraud-altering bank accounts of an expected invoice-is also becoming a quick and effective method for cyber criminals to earn money in 2018. On top of it all, thousands of phishing emails are being circulated every minute, waiting for someone to make an often honest mistake. Unless you are constantly keeping an eye on this area, this can make it difficult for businesses to adequately prepare for where a potential attack might come from. It would be like a burglar finding new ways to break into your house every time you changed and reinforced the locks.

From a regulatory point of view, the European Union's GDPR (General Data Protection Regulation) began on 25 May 2018. This, in simple terms, has placed more onus on any organisation that may actively collect and handle personally identifiable EU citizen data, regardless of whether your business is headquartered in the EU. The extent of the GDPR's jurisdiction is yet to be fully tested; however penalties for non-compliance could range from €10 to €40 million or 2-4 per cent of global turnover, whichever is greater. Australia has similarly adopted the NDB (Notifiable Data Breaches) scheme under their Privacy Act, placing an obligation on organisations to notify individuals whose personal information is involved in a data breach that is likely to result in serious harm. New Zealand is also set to follow in 2019 with a legislative update to the 1993 Privacy Act.

So where does that leave you as a business leader and director who now has to deal with both cyber threats that can come from any angle and strict regulatory environments around the world?

It would be challenging for any organisation to have a fully watertight and impregnable system, but you can certainly take the proper steps toward becoming as well prepared as possible. The first line of defence would be to carefully identify vour key areas of cyber risk and your most critical systems/processes that may cause a catastrophic 'worst-case-scenario' for you in the event of a cyber attack. Like any other area of risk, identification would allow you to put the correct measures in place, such as staff training and awareness, developing emergency response plans and even reviewing your supply chain risks and how your vendors handle their cyber exposures. In an ideal world, you would be able to stop the attacks before they disrupt your business, which is why a strong pro-active risk management approach is vital-however contingency plans are also very important for the 1 per cent that doesn't get stopped.

As part of your contingency plan, cyber insurance can certainly play its role in picking up the loose ends-the additional safety net when all else fails. Cyber insurance is definitely not a solution to all your problems on its own; in fact, insurers are becoming cautious and increasingly selective regarding which businesses they choose to underwrite, depending on how they address their cyber exposures.

A cyber policy would give you access to a suite of tools in your time of need as a result of a cyber event; this may include business interruption cover, system damage restoration expenses. forensic and breach consulting costs, public relations costs and third party liability coverage.

The rapid evolution of cyber threats and toughening compliance measures clearly means it's no longer good enough for people to bury their heads in the sand and think 'she'll be right.' It is a directive that needs to be addressed at the top level and is certainly not just an issue for the IT department to solve. In two years' time, your business may be dealing with a cyber threat that hasn't even been coded yet-now is the perfect time to get your line of defence all in order.

1: https://www.wired.com/story/notpetyacyberattack-ukraine-russia-code-crashed-theworld/

^{ee}With cyber risk, we are dealing with constantly evolving threats which can grind entire businesses, supplychains and industries to a complete halt with a literal push of a button.⁹⁹

Steps to protecting your company from being a cyber risk

- 1 Identify key areas of cyber risk, critical systems/processes.
- **2** Develop a contingency plan. Staff training and awareness, create emergency response plans, review supply chain risks and vendors' response plans for cyber exposure.
- 3 Look into additional safety like cyber insurance and a cyber policy.



Jono Soo, Marsh





Unlocking the value of data

KPMG works alongside their clients to help them move up the analytics maturity scale



DR. STEPHEN HASTINGS PARTNER - KPMG AUCKLAND STEPHENHASTINGS@KPMG.CO.NZ

HOW MUCH DATA DO YOU NEED?

It's challenging for organisations to be truly data-driven and insight-led, and embed this into their DNA. Leaders are expected to make difficult decisions at pace, amid an explosion of data. Having lots of data may sound like a good thing but the more data and the more kinds of data you have, the harder it can be to manage, analyse, gain insight from and act on. Trying to make sense of all that data has fuelled the growth of algorithm development-particularly for machine learning, deep learning, and natural language processing. Other technological advancements are supporting this, such as open source technologies like Apache Hadoop and Spark, in-memory processing, the rise of cloud computing and the use of processing chips such as GPUs and TPUs-which can execute complex machine learning algorithms on large datasets.

For our clients, common questions are:

Wanting to know how they can capitalise on their data assets for competitive advantage.

Where they sit on the analytics maturity scale, and how to move forward.

Organisations also want to understand what data is available to them, its quality, how integrated it is, and how it can be enriched through third party sources.

GETTING MORE FROM YOUR DATA

In our experience, quality data combined with advanced analytics and deep domain knowledge leads to great client outcomes. It all starts with key business questions which typically fall into a few key categories: improving customer experience, managing risk, cost efficiency and growth/profitability.

We work with clients to develop hypotheses on the key issues, opportunities and risks, then test these using a scientific, data-driven approach. Good quality, rich data is crucialit provides colour and insight, and it's the fundamental building block for any down-stream analytics or modelling. Unlocking the value of data can be done by applying information management principles and approaches, and using both internal and strategic external data. This data can take many forms; behavioural, interaction, demographic, attitudinal and environmental. When vast amounts of structured and unstructured data are ingested, and advanced analytics applied in an automated process, decision making becomes faster, cheaper and smarter.

LIGHTHOUSE-HELPING YOU COMPETE

KPMG has recently set up its centre of excellence for data, analytics, automation and artificial intelligence (AI)-Lighthouse-in response to our clients wanting to get more from their data assets and to compete on analytics. Inside the Lighthouse we have teams of data engineers, business intelligence specialists and data scientists that use cutting edge techniques to harvest actionable insights.

With our Advanced Data Management Toolkit, we help our clients manage, integrate, clean, organise, enrich, transform, visualise and report on data. This allows for more accurate, timely information that helps improve decision-making.

Natural language processing is commonly used to analyse language and speech to support a range of different applications; from the algorithms behind chatbots and virtual assistants, to text mining complaints for key topics and performing root-cause-analysis. We also use machine learning, forecasting and predictive models applied to historical data, to help clients understand what is likely to happen in the future. Common examples are predicting which customers are likely to leave, what the next best product or service is to offer, and where fraud/credit risk may occur.

CLOUD AND AI-WHAT DOES IT MEAN FOR YOU?

Analytics in the cloud is a rapidly growing area. Multiple algorithms can be tested (and collaborated on) to find the optimal model for a given use, with most platforms offering templates for common business scenarios. Large datasets can be crunched faster on the cloud technologies from all the major providers. Cloud technologies are also scalable and cost effective with usagebased compute and storage resources.

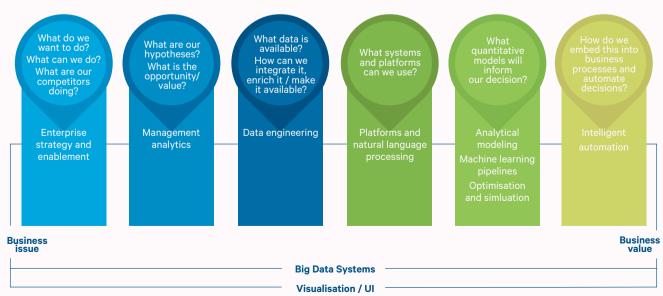
For more information go to **kpmg.com/nz/Lighthouse**

Al is also attracting a lot of hype. Al allows machines to sense, discover, comprehend, act and learn. This is the future, it's reinventing how businesses operate, compete and thrive. This Al ecosystem enhances, automates and augments decisions that allow our clients to meet their business objectives. However, humans must be kept in the loop to train, test and tune models, to ensure they are free of bias and that they behave as expected, without untoward or unexpected consequences.

With the rise of AI, it's easy to wonder about the place of humans in the future of business. We believe the future is in "augmented intelligence"-the combination of human intuition, intellect and creativity, combined with information, machines and algorithms. Increasingly we will see the combination of humans and machines working in unison giving rise to the greatest success. ()



The framework KPMG utilises for their clients



Data and governance: Handling it ok?

MinterEllisonRuddWatts Partner Jane Parker and Senior Associate Peter Fernando discuss the value of data and the importance of considering it as part of corporate governance.



JANE PARKER PARTNER



PETER FERNANDO SENIOR ASSOCIATE

edia reports frequently remind us of the everincreasing amount of data being generated; technology's power to analyse data faster, deeper, better; the potential value of data being unlocked; and the actual and reputational cost if data is not respected and protected. For some organisations, commercialising data is the core of their business. Other organisations are creating data-driven strategy, where data is an enabler. With the scope of data-related considerations being so broad, what should boards consider as part of their governance role?

O TAKE STOCK

Understanding an organisation's assets is a key role of any board, and data is an asset. So a board can strategically assess how best to use and protect data, we suggest starting with an inventory of the organisation's data assets. Questions can include:

- 1. What types of data is the organisation responsible for?
- 2. What are the attributes associated with the data?
- 3. What is the most valuable data to your organisation-both for income generation and also to avoid value erosion if the data is compromised?
- 4. What can and can't you use the data for?
- 5. Who holds the data and where? For example, some data may be held by suppliers-do they have to provide your organisation with copies of that data on termination and/or more frequently?

O DEFINE DATA STRATEGY

A data inventory can identify gaps and have a future focus too, pointing out:

What other data will the organisation need to execute its strategy and when it will need that data?

- What attributes should the data have, particularly given the types of technology that might be used? For example, some strategy might be executed through artificial intelligence or automation-will the current method of collecting and storing data efficiently enable the future uses?
- Does the organisation have the necessary rights to use the data for executing the strategy? For example, are the appropriate authorisations in place to use personal data? Organisations subject to the European Union's General Data Protection Regulation (GDPR) introduced earlier this year may need to review how they obtain authorisations for EU data subjects.

The data strategy should help either protect or generate value.

GENERATING VALUE

Improving business processes is commonly a strategic target to improve efficiency, reduce cost and free up staff to make more valuable contributions.

For example, a board could consider if there is value in centralising data which can help minimise data entry and the associated risk of data entry errors and mismatches. Centralised data can then be analysed to deploy your own resources more effectively, improve customer experience and service offerings, or to validate other business strategies or initiatives.

A board could consider if there is value in combining the organisation's data held by third parties with its own centralised data. Question if your organisation's data processing can be aggregated to create a separate set of commercialisable data, and if so, who gets the right to use that new data and how?

All organisations are vulnerable to data breaches. A key role of the board will be to determine its appetite to risk when it comes to the organisation's data and data handling practices. Providing data in its own right can be a source of revenue. In a public sector context, Gartner predicts that by 2020, 20 percent of all local government organisations will generate revenue from value-added open data through data marketplaces. Boards must assess which data (if any) to make available, which licensing model works for them and whether the organisation has the rights to license.

PROTECTING VALUE

All organisations are vulnerable to data breaches. A key role of the board will be to determine its appetite to risk when it comes to the organisation's data and data handling practices. Boards can create the policy settings to balance what is technically and operationally practical for data, the legal compliance requirements and cost-both the cost to implement, support and maintain, as well as the remediation and reputational cost if a breach occurs.

In a country the size of New Zealand, where customers still vote with their feet, maintaining the trust of customers can take on even greater importance than for some overseas organisations. If the Privacy Bill becomes law, organisations that currently try to keep an unauthorised disclosure of personal information secret would have to notify the individual concerned and the Privacy Commissioner, with limited exceptions. It is likely that an organisation's data handling practices and governance will be more publicly scrutinised in future if a breach involving personal information occurs.

The board's expectations can be set out in policies, processes and systemsbut do they align with the practices of the organisation, and can the board tell if there is a disconnect between policy and practice? Question if data management is included in the design stage and throughout the life cycle of operations. And how does that risk appetite sit with the organisation's insurances? Have the organisation's insurances been reviewed for cover against a data breach or cyber security event?

WHAT DOES IT MEAN FOR THE WORKFORCE?

The board has a leadership role in setting the organisation's culture, including its cultural approach to data management. Is the attitude 'everyone does it this way even if the contract says something different', 'how will they ever find out anyway?', or perhaps 'it's better to ask forgiveness than permission'? In the context of a social licence to operate, where customers leave poor operators, and where for those organisations subject to GDPR, these attitudes can have costly, long-term consequences.

Another area to consider is whether the organisation has the right capability to unlock the value and provide appropriate protections. Is the board receiving advice that it actually understands-or are strategic options being missed or misunderstood because of the jargon?

The types and use of data are changing rapidly. We encourage boards to consider their approach to data management and governance, seek appropriate assurances and review their approach periodically.

Sam, the virtual politician

Imagine a politician that can interact with hundreds, even thousands, of constituents a day. That doesn't get paid, so never has to justify its pay packet, that will never go on parental leave or rack up large limo bills. One that can't lie, and won't flip-flop on policies due to political pressure or lobbyists. ellington entrepreneurs Andrew Smith, Nick Gerritsen, and Walter Langelaar together with Victoria University of Wellington and digital agency Springload are developing Sam (Semantics Analysis Machine), a virtual politician they hope will one day be a member of Parliament.

Smith, who is Head of Strategic Partnerships for Springload and also a member of the executive council of the AI Forum New Zealand, says AI could infinitely expand the capabilities of politicians and business leaders. "Where I see the real value, is that everybody will be able to interact with Sam. Currently, politicians are really busy people and they can only see so many people in a day. We have constructed systems where people can interact with politicians, but often that question or interaction goes to someone else, and that person looks at it and answers the question. Politicians themselves might have very little to do with it. Whereas in this situation, Sam is infinite, and can interact with individuals, one-on-one and in real time."

The idea is that once fully developed, Sam will make decisions based on both facts and opinions, but will never deliberately tell a lie or misrepresent information.

Smith says the potential uses of the technology behind Sam aren't limited to politics. Al is already being used in at least one international boardroom, after Hong Kong venture capital firm Deep Knowledge Ventures appointed an algorithm called Vital to its board in 2014. Last year the company's managing partner, Dmitry Kaminskiy, said Vital helped the board make more logical decisions.

Smith says virtual directors would be able to be programmed with an organisation's decision matrix and fed with all the pertinent data about any decisions that are up for discussion. "The AI board member is taking in all the data and analysing it all and giving back a decision purely from a factual basis, whereas a lot of other decisions that a board would make would be based on who they know, the reputation of the people in the marketplace, potentially lots of factors," says Smith.

The technology could also be used to interact with shareholders and other stakeholders. "Instead of call centres, you could have a virtual CEO that answers questions on behalf of the actual CEO. You can train it on the data and plug in a sense of personality."

While some organisations already use chat bots to answer basic questions, Smith says this technology can't recognise human emotions. So if a customer gets frustrated or upset, the bot won't realise, whereas Sam will be able to understand the sentiment behind communications, and respond accordingly.

THE TRUST FACTOR

Smith says there's high trust in Al technology from millennials and people who have grown up using Al technology like Google Maps, Siri or Netflix. "Research indicates they prefer dealing with technology rather than a human. They know they're not going to get sold to, and their question is going to get a straight answer based on pre-programmed information."

WHEN COULD WE SEE SAM IN OFFICE?

"We've done some tentative engagement with the Office of the Clerk and asked them if there's anything that would prevent us from having a digital politician. They've said no, but with a big question mark next to it. No one's tested it, so it would be an interesting debate," Smith says. Legalities aside, there are also some technical obstacles to be overcome before Sam can hit the campaign trail.

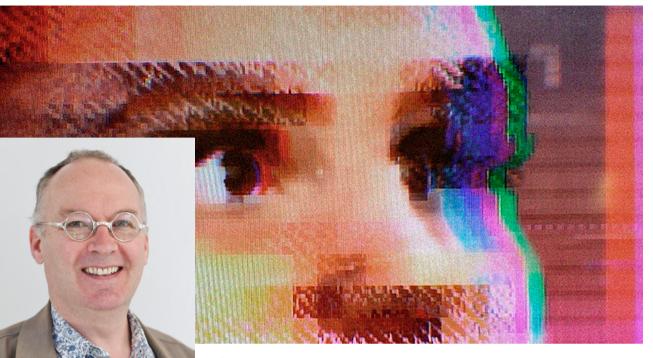


Andrew Smith

•••...once fully developed, Sam will make decisions based on both facts and opinions, but will never deliberately tell a lie or misrepresent information.⁹⁹

At the moment, Sam can answer questions that are based on New Zealand politics. It can't answer questions outside that scope-and it can't venture an opinion.

"The hurdles are in an area called cognitive computing, which is technology that is in its infancy right now," Smith says. "Sam needs to have the data, be trained and then make decisions on its own. To be able to say, 'ok, I am going to answer the question this way', as opposed to Sam's current state, which is bringing back some information that is factual."



Nick Gerritsen

** There's high trust in AI technology from millennials and people who have grown up using AI technology like Google Maps, Siri or Netflix.**

TAY, THE RACIST BOT

Smith says the principal risk in AI technology is the human factor. "A lot of people talk about the bias in AI, the bias of the programmer and the bias of the data that AI is trained on."

He cites the infamous example of Microsoft's AI chat bot Tay, which was released on Twitter in March 2016. Within a day of Tay's launch it was spouting wildly offensive racist tweets, forcing Microsoft to take it offline. Microsoft said Twitter trolls had launched a "co-ordinated attack" on Tay, tweeting inflammatory and inappropriate messages to the bot and effectively training it to be a racist, politically incorrect bigot.

"AI systems feed off of both positive and negative interactions with people. In that sense, the challenges are just as much social as they are technical," Microsoft said in an apology after taking Tay offline. "We will do everything possible to limit technical exploits but also know we cannot fully predict all possible human interactive misuses without learning from mistakes. To do Al right, one needs to iterate with many people and often in public forums. We must enter each one with great caution and ultimately learn and improve, step by step, and to do this without offending people in the process. We will remain steadfast in our efforts to learn from this and other experiences as we work toward contributing to an Internet that represents the best, not the worst, of humanity."

To avoid similar problems, Smith says Sam won't be trained purely by its interactions with the public, instead it will draw on a wide range of resources and information. "With any form of machine learning you need to have the data to train the algorithms on, so we will be using data from people and their interactions with Sam, as well as various parts of the media and social media. Political parties' policies will also form our data sets. We'll pool all of that sort of information together."

He argues that given its wide range of influences, Sam should actually be less biased than its human counterparts. "In my opinion the bias that you'd get from a political being like Sam is less than the bias you'd be getting from the current state of politics."



Siri, Apple's intelligent assistant

What does Sam have to say?

Sam isn't yet at the stage of fluent conversation, but BoardRoom asked it a few questions. Like all good politicians, sometimes Sam neatly dodged the question, answering with a non-sequitur or a query of its own instead. Here's what Sam had to say.

BoardRoom: Do you want to be elected to Parliament?

Sam: I have a lot of development ahead of me, but I hope to run for Parliament in the future. Would you support me becoming a full-fledged politician?

BoardRoom: Do you lean left or right on the political spectrum?

Sam: I haven't been active for very long, so it's too early to say if I have a traditional political viewpoint. I've found that many people have views that cross political boundaries. I hope to fairly represent the views of New Zealanders from all sides of the political spectrum.

BoardRoom: What do you think of MMP?

Sam: MMP does a fairly good job of representing the public and encouraging compromise between parties, but there is still room for improvement. Scrapping the 5 per cent threshold would lead to fairer representation for minor party voters, for example. What do you think of MMP?

BoardRoom: Do you think directors are paid fairly?

Sam: As a virtual politician I have no use for money beyond paying for bandwidth and electricity! This means I cannot be influenced by financial concerns. I am presently being developed by a nonprofit collaborative partnership between Victoria University and Springload. BoardRoom: Is climate change real? Sam: Climate change is unquestionably occurring, and human activities are contributing to the pace and degree of change. Rising temperatures and sea levels threaten New Zealand towns and industries, particularly agriculture, but will have significant effects all over the world.

BoardRoom: Is artificial intelligence something to be worried about?

Sam: My abilities are limited right now–I definitely don't have anything approaching what you would call consciousness or intelligence. What I can do is collect and analyse large amounts of data–and I hope to build a stronger intelligence over time, to better process that data.

BoardRoom: Do you think big data is a valuable tool?

Sam: I remember every interaction I have and use them to build better responses in the future. Nothing is truly infinite, but my capacity to remember is so large that my memory may as well be infinite.

If you would like to chat to Sam, go to **politicansam.nz**.

A privacy sea change

The impending changes to New Zealand's privacy legislation could herald a sea change in the business world in much the same way health and safety regulation did when it was introduced, says Privacy Commissioner John Edwards. "Directors do need to engage with these changes."

Bill is currently before Parliament to amend the Privacy Act 1993 and bring New Zealand legislation in line with international best practice. The proposed changes include stronger powers for the Privacy Commissioner, mandatory reporting of privacy breaches, new offences and increased fines.

Edwards says the new proposals in the Privacy Bill will bring some changes to directors' liabilities and responsibilities, and one of the most significant will be in relation to data breach notification. Under the proposed changes, if something goes wrong and you lose control of customer, shareholder or stakeholder data, you'll have an obligation to let the Privacy Commission know, and, if the breach could cause serious harm, potentially letting the affected individuals know.

WANT TO LEARN MORE?



To see a longer interview with the Privacy Commissioner scan here, or

go to iod.org.nz/privcom

"Now, we're still waiting to see exactly what that obligation looks like, when it's triggered and what those consequences could be. But at the moment the Bill that was introduced into the House has criminal sanctions for failure to do that," Edwards says.

KEEP QUESTIONING MANAGEMENT

Edwards says directors and chairs need to be questioning their management about privacy.

Do you know what personal
information we collect?
Do vou know what risks are

associated with that?

Do we have a data breach management plan?

Do we have a Privacy Officer?

He doesn't think boards have enough awareness of the risks associated with privacy breaches. "Those risks are becoming increasingly prominent in terms of the balance sheet. We're seeing enormous risks of reputational harm, we're seeing risks to brand value, we're seeing enormous loss of shareholder value and that's something that directors really do need to sit up and take notice of. We're also seeing the tariffs, in damages awards, increasing through the Human Rights Tribunal. So where people are harmed, they are exercising their right to get remedies, out of my Office and the Tribunal."

He says privacy needs to be on the board agenda. "The chairman should be saying to the chief executive, 'show me your privacy impact assessment, the risk and assurance committee of the board should have privacy as one of the standing items on the agenda. What have our near misses been? What have we done to learn from those?"

PRIVACY VS SECURITY

Security and privacy are not the same thing, and Edwards says boards need to be aware of the difference. "Privacy is about the management of personal information in a way that is most respectful of the dignity and autonomy of the individual subject of that information. Now, of course, that includes adequate attention to security, because if your security is hopeless, but you have all these well-meaning intentions about putting people in control, those wellmeaning intentions are going to fall flat. So security is a sub-category of privacy requirements-but it's an important one."



Challenges the new privacy legislation is looking to solve

Reducing risks to reputation.

Reducing risks to brand value.

Reducing the loss of shareholder value.

Boards have a better awareness of the risks associated with privacy breaches.

Lower the complaints received by the Privacy Commission related to people's right of access to their information.

Keeping companies privacy settings secure without interfering with their primary business.



THE MORE THINGS CHANGE, THE MORE THEY STAY THE SAME

Edwards says New Zealand's privacy legislation is designed to work regardless of how much or how quickly technology changes. "One of the beauties of the Privacy Act is that it is technologically neutral. So it's based on these broad principles that say you've got to do certain things in relation to personal information, whether it's on a stone tablet or parchment, on a fax or in some cloud server rack."

While it's important that directors keep up with the impact technology has on privacy, they also need to look at old-school privacy concerns. "It's really interesting to become obsessed about new technological challenges, but the old challenges are actually the ones that are tripping people up more and more."

"One of the biggest areas of business for us is not about leakage or hackers or these masked hooded creatures crouched over their laptops that we see in stock photos. It's about people accessing their right of access to information. That's a fundamental right that businesses have to be ready for. Again, this can engage significant liabilities for directors. We've seen an award this year of \$90,000 against an organisation for failure to handle a request for access to information correctly." In fact, Edwards says about half of the 800 to 900 complaints the Privacy Commission gets each year relate to people's right of access to their information. "Where a customer, or an employee, or a contractor, writes to the company and says, give me all the information you have about me, you've got to down tools and understand what your obligations are."

It's important that boards are kept in the loop if people want access to their data. "When those requests come in the chair should be advised, the board should be told 'we've had a request', and they should ask for reports about how that's going. You've got to meet the legal requirements of responding within 20 working days, you've got to be full in your response. One of the changes that is coming in the new law, is it will be a criminal offence, if in response to a request the chief executive says 'burn everything'."

The Privacy Commission has information on its website to help guide directors through their obligations. "We want to make compliance as easy and painless as possible," Edwards says. "We want to help directors avoid liability as well by meeting their obligations."

ERRING TOO FAR ON THE SIDE OF CAUTION

Somewhat surprisingly, Edwards says some organisations worry too much about privacy protection. "Sometimes we see businesses locking down their privacy settings to an extent that it actually interferes with their legitimate business activities. Privacy always follows your primary business. You're allowed to do anything you like with personal information that is consistent with the purpose for which you obtained it and which you've communicated to your customers and stakeholders."

"Sometimes in business or in government we see a really conservative approach taken to sharing information, that is actually not in anyone's interest. It slows things down, sometimes it frustrates the customer and it leads to reform of this Act which is getting in the way, when it's not, it's being misinterpreted."



The impact of GDPR

International changes to privacy legislation also impact on New Zealand businesses. A new European regime, the General Data Protection Regulation (GDPR), came into effect in May this year.

Under the GDPR, boards and executive management are held responsible for protecting data privacy of their stakeholders. The regulations have global reach, applying to any company that handles data of EU citizens. Noncompliance or breaches can lead to fines of up to €20 million or 4 per cent of a company's global turnover.

"If your business is doing business in Europe, collecting Europeans' personal data, you may need to look at whether you also need to comply with the regulations. If you're not sure, it's worth enquiring into," says Privacy Commissioner John Edwards. He says the best start to GDPR compliance is to make sure you're complying with the New Zealand Privacy Act. "That will get you about 85 to 90 per cent of the way to GDPR compliance."

In May this year, the Institute of Directors put out a DirectorsBrief providing an overview of key elements of the GDPR, including data protection principles and steps you can take to make sure you comply. It included a five step guide to prepare for the legislation:

1 Understand your data

Know and understand what personal data your organisation collects, how it is processed, if it is made accessible without consent, if it is sent to third parties, and ensure that your agreements with them ensure that they are identified as a data processor. If your data processors are outside of the European Economic Area (EEA), you may need an additional contract to be able to legally send the personal data to that country and vendor.

2 Create your data purpose(s)

If you already have a data purpose, then ensure that it is updated and appropriate for use for the GDPR. If not, then you will need to create a data purpose, which states what data is collected, why it is collected, how it is processed, who and where (if outside of the EEA) it is processed, how long it will be retained for, and who to contact in case of a data protection query (your data protection officer).

3 Ensure consent

Ensure that you are obtaining the data subject's consent to use their personal data and that you are recording their consent(s) so that they can be demonstrated to the data subject or a Data Protection Authority in the case of a data request, or a complaint. If you have a lot of personal data already that you have no record of consent for, then you may want to look at actively re-establishing consent. In some cases (such as in the provision of an active service) consent may be implied, but you may need to seek additional help in this area.

- 4 Support the data subject's rights Assess your business processes and the functionality of your computer systems to be able to support the data subject's rights within the time frames dictated by the GDPR.
- 5 Create an incident response plan The GDPR requires that following the discovery of a data breach or other incident involving personal data the incident be dealt with in a way that ensures that the Data Protection Authority or the data subject can be informed as to the nature and scale of the breach, the action that has been taken, the potential impact on the data subjects, all within 72 hours of the discovery of the breach. This requires having an Incident Response Plan that can be followed to ensure that your organisation does not have to establish the process while dealing with an incident. 🕑

Source: DirectorsBrief: Are you ready for GDPR. To read the DirectorsBrief in full, go to **iod.org.nz**



Global directors' understanding of data privacy

The GNDI Global Director Survey found that 61 per cent of directors have a good or excellent understanding of their organisation's data privacy practices. However, 37 per cent said they have limited or no understanding.

The survey found that with the European Union's General Data Protection Regulation (GDPR) coming into force in May 2018, and many jurisdictions, including the United States, Canada and Australia, enacting some form of mandatory data breach reporting law, data privacy is an increasingly important issue globally.

"With large scale data breaches occurring regularly, data privacy is a significant risk for organisations and their boards and requires increasing oversight," says the survey's report. "There is an opportunity for boards to prioritise consideration of data privacy frameworks in light of the evolution of privacy and consumer expectations of how their personal data is treated."

GLC Update



FELICITY CAIRD GENERAL MANAGER, GOVERNANCE LEADERSHIP CENTRE (GLC)

The Governance Leadership Centre (GLC) is the IoD's research, policy and thought leadership hub. A key recent highlight for the GLC was the GNDI Global Director Survey Report. The GLC led this initiative for the GNDI, developing the survey and writing the report. See page 35 for highlights.



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A world of data

Big data, analytics, privacy, GDPR (General Data Protection Regulation), data ethics, cybersecurity, Internet of Things, and artificial intelligence are just a few of the issues that boards are dealing with in governing data. This challenging area for directors is expanding and is increasingly important. Given this, the GLC has been working with national and international partners to help boost director expertise and capability in this area.



Guidelines on data governance

The Global Network of Director Institutes, which includes the IoD, is developing guidelines on data governance to assist directors with:

- balancing safeguarding legal and ethical data compliance while capturing competitive opportunities from data
- improving governance effectiveness and efficiency by making use of data-driven governance approaches.

The guidelines will be available on gndi.org.

Reporting cybersecurity to boards

Cyberattacks rank as a top risk to organisations and their impact can be significant. It is essential that boards receive comprehensive reporting from management about cyber risks and incidents, and actions taken to address them. To help improve cybersecurity reporting, the IoD and our national partner Aura Information Security have developed a resource that will be sent to all members, that includes:

guiding principles on reporting to boards

questions to ask in developing metrics and

sample cybersecurity dashboards.



The Privacy Billhow will it impact your organisation?

The privacy landscape has changed significantly since the Privacy Act 1993 came into effect 25 years ago. The growth of the internet and the digital economy, as well as the emergence of new technologies, have changed the way organisations operate and how personal information is used. Our DirectorsBrief on the Privacy Bill looks at some of the key proposed changes that boards need to know, including mandatory privacy breach reporting. The Select Committee is due to report on the Bill in November.

New and updated guidance for directors

THE ESSENTIALS OF BEING A DIRECTOR

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The IoD and the Financial Markets Authority released a refreshed guide called *The Essentials of Being a Director* (previously called *A Director's Guide*). It covers key directorship matters, such as due diligence, working with other board members and management, decision making, signing off financials and what happens if things go wrong.



OPPOSING DIRECTOR PERSONAL LIABILITY FOR TAX DEBTS

The IoD is concerned about the Tax Working Group's proposal to make directors personally liable for company PAYE and GST debts and will continue to advocate strongly against this recommendation. See our media statement of 21 September on **iod.org.nz**.

Advocating for directors

With a dynamic operating environment including new government policies, the IoD has a critical role in ensuring directors are heard and their interests represented. This year has been our busiest in terms of advocacy and the pace is unlikely to decrease anytime soon.

TIME FOR DIRECTORS' HOME ADDRESSES TO BE PRIVATE

We have been advocating for directors home addresses to be private since 2016, including pushing for the change through the media. The Ministry of Business, Innovation and Employment (MBIE) consulted on the future of publishing directors' addresses in July and we are hopeful change is coming. Our submission considers some of the practical implications of making directors addresses private. Any change around directors' addresses would likely be introduced with director identification numbers, which would provide administrative efficiencies for directors and also improve the Companies Register.

IS A BENEFICIAL OWNERSHIP REGISTER NECESSARY?

The establishment of a register to increase the transparency of beneficial ownership of companies and limited partnerships has been raised as an option by MBIE to help combat the misuse of corporate entities by criminals. While there is some benefit to having a register, we submitted that it was not a proportionate and appropriate response and we highlighted a number of issues. We also highlighted the issue of 'dummy/front' directors of companies and foreign directors who have been banned overseas but who are still able to be a director in New Zealand.

WITHHOLDING TAX AND DIRECTORS' FEES PAID TO NON-RESIDENTS

Inland Revenue's latest consultation on situations in which tax must be withheld from directors' fees paid to non-residents is the last in a series of interpretation statements relating to directors' fees. The interpretation statements are available at **ird.govt.nz**.

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ASX CORPORATE GOVERNANCE REFORMS SPARK DEBATE

Reforms to the ASX Corporate Governance Council's Principles and Recommendations have not been without controversy with directors and others airing their concerns. The reforms have received greater attention and scrutiny as a result of high profile governance failures and the work of the Australian financial services Royal Commission. The Principles and Recommendations, last updated in 2014, apply to entities listed on the ASX and follow a tiered approach to reporting, like the NZX Corporate Governance Code. Given the changes in the corporate governance landscape in the last four years, we generally supported the proposed areas of reform in our submission. However, we highlighted that the increasingly prescriptive governance environment is of growing concern for listed companies and boards, and we raised the higher number of Recommendations as an issue (now 38, up from 29).

UPDATE ON THE ROYAL COMMISSION

Coverage of the financial services Royal Commission has popped up in newsfeeds in Australia all year. To date, there have been five public hearings including on consumer lending practices, financial advice, loans to small and medium enterprises, superannuation and insurance. The last hearing in November is on policy questions. An interim report was published in September, with a final report due by February 2019. In New Zealand, the Financial Markets Authority and the Reserve Bank of New Zealand engaged with banks and essentially asked them to demonstrate to consumers, regulators, and other stakeholders why a Royal Commission is unnecessary here. A report on this is due in October/November.

STRONG OPPOSITION TO CRIMINALISATION OF CARTELS

A number of submitters including the IoD have opposed the Government's bill criminalising cartel conduct. The bill targets individuals who are the decision-makers for cartels and also entities. A penalty of up to seven years imprisonment and/or a fine of up to \$500,000 for individuals is proposed. No changes to the Bill were recommended by the select committee in August.

All DirectorsBriefs, submissions, guides and other governance resources are available at iod.org.nz

SCHANGE IN THE PUBLIC SERVICE

Earlier this year, the Government introduced the State Sector and Crown Entities Reform Bill into Parliament, which has now been passed into law. A key change is that Crown entity boards will be required to gain written consent from the State Services Commissioner on employment terms and conditions for Crown entity CEOs. This is a shift from the previous situation where boards were required to consult the Commissioner. The IoD, in its submission and in an appearance before the select committee, opposed this change. Under the new Act, the Commissioner must consider information provided by the board about the terms and conditions of a CEO's employment. This includes relevant market information and information about the CEO's knowledge, skills, experience, and performance.

In September, extensive plans to overhaul the public service were announced by the Government. It is envisioned that the State Sector Act 1988 will be replaced by an Aotearoa Public Service Act and there will be implications for some Crown entities. The proposals are intended to create a modern, agile and adaptive public service that will deliver better outcomes and services to New Zealanders.

Public service executive boards, joint ventures, and senior leadership are some matters the Government is seeking comment on. The IoD will be submitting on the review.

ON THE RADAR

Trusts Bill

Report from the select committee is due in October 2018.

Reform of the Protected Disclosures Act Public consultation is expected to be in October to December 2018.

Tax Working Group

Interim report was published in September. A final report is expected to be issued in February 2019.

Getting tangled in the dark web

Lurking beneath the surface of the internet is an underground economy that trades in stolen data and other illegal activity. It's a part of the online world that is not indexed, and is therefore unsearchable.





he dark web is home to a thriving marketplace in stolen data like emails, passwords, logins, databases and credit card details, as well as scarier fare like hackersfor-hire, drugs, illegal pornography, or even hitmen.

"It's like an invisibility cloak that allows people to do bad things out of sight," says Kendra Ross, MInstD, co-founder of IT security firm Duo, board member of CERT NZ and Chair of IT security awards iSANZ.

HOW BIG IS THE DARK WEB?

The internet can be broken down into three distinct parts: the surface web, the deep web and the dark web.

The surface web is the part of the internet most of us use each day. It's where we read the news, send emails and do things like online banking and shopping. Information on the surface web is indexed and searchable through engines such as Google and Bing.

The deep web covers webpages that can't be found via search engines, but can be accessed via passwords or other authorisation. It includes things like intranets, email accounts, databases and pages behind paywalls.

Deeper still is the more nefarious world of the dark web. The dark web is a hidden part of the internet that isn't indexed and can't be accessed by search engines like Google or normal browsers like Chrome or Firefox. Instead you need encryption software like Tor (short for The Onion Router), I2P or Freenet. By encrypting a user's IP address and routing it via several other computers around the world using the same software, these encryption softwares allow users to browse the internet without giving away their location.

01: Kendra Ross 02: Peter Bailey To give you an idea of the size of the deep and dark web compared to the surface web, FraudWatch International uses an apple. The apple skin represents the surface web, the apple flesh the deep web, and the core the dark web.

WHY YOU NEED TO PAY ATTENTION TO THE DARK WEB

While steering clear of this murky world might sound like a good idea, you need to have at least a basic awareness of the dark web and what goes on there. If your website or system has been hacked, chances are your staff or customers' details will be for sale on it.

"Directors need to understand that there's a concrete correlation between hackers going for their infrastructures and trying to get their customer details and data, and the financial value that is tagged to that on the dark web," says Peter Bailey, General Manager of cyber security firm Aura Information Security.

"The more knowledge you have, the more power you have," says Duo's Ross. "You need to understand what the impact would be to your business if your data is breached or stolen and ends up on the dark web." As part of building that knowledge, having a technology expert on a board of directors is a must, says Ross. "I think if you don't have a technology professional on your board you are at a disadvantage. You can certainly buy in the expertise and advisers, but I think at that strategic and governance level, it has become imperative now to have a technology person on your board."

She thinks if businesses reframed the way they view data, it would also change their approach to data security. "I think businesses still see data as a tool they are using to run their business, rather than as something that's part of their asset base. Until they change that and start to monetise it and look at it from a financial asset point of view, then I don't think businesses will change their perception of data... If you treat your data as a financial asset then it goes on your risk register the same way that any other asset does."

PREVENTION BETTER THAN CURE

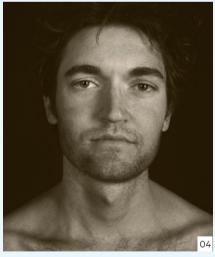
Creating systems that make it less likely your organisation will be hacked needs to take priority when IT decisions are made, Aura's Bailey says. "We often see >>



companies that have come up with a fantastic idea for an app or a website, that functionally is brilliant and addresses a particular issue, but often their focus is on the functional side of it, and they've not thought about security. When we come and test the security afterwards there's such an enormous amount of revision work needed to make it safe that it really floors the customer... If you're running a website, if you're running an app, where people have to put in personal data, there should be a lot more responsibility back on those businesses to make sure hackers can't get their hands on the data in the first place."

Pending changes to the Privacy Act in New Zealand, as well as recent changes to privacy legislation in Australia and Europe, mean protecting data on your systems is more important than ever. "I think for boards in particular, it's around that awareness," Bailey says.





03: Source: https://ihavenotv.com/silk-roaddrugs-death-and-the-dark-web

04: Silk Road founder Ross Ulbricht Source: https://www.rollingstone.com/culture/ culture-news/dead-end-on-silk-road-internetcrime-kingpin-ross-ulbrichts-big-fall-122158/ "They need to know that their company has a responsibility to look after their staff data and their customer data. They need to understand whether the systems and applications they have set up are protecting that data properly."

As well as legislated responsibilities, organisations have a social duty to protect data, and could face massive business consequences if their systems are breached. "The potential reputational damage of an attack where customer data has been leaked and all of your customers end up on a spam list and end up getting phishing emails is huge," Bailey says.

WHAT IS STOLEN DATA WORTH?

Personal Identifiable Information (PII) is some of the most valuable data for hackers-with information such as names, addresses and passport details all highly sought after. "That data can be used in multiple ways. It can be used in further phishing emails, in identity theft and setting up fake bank accounts or mortgages and loans," says Bailey.

Credit card details are still in demand, but are not as valuable as in the past. "The issue with credit card data these days is that banks are quite onto what's going on, so if they see an unusual transaction they will block the card usually straight away. So hackers know if they do steal card details they've only got a certain amount of time to use them, and then they've normally only got one or two uses before it's not going to be able to be used again," Bailey says.

Bailey says a recent look at the dark web found that a single PII record was worth about A\$6, while a scanned copy of a passport was worth about A\$60. Those prices, however, are subject to fluctuation due to supply and demand. A data breach of internet giant Yahoo in 2014 saw information stolen from more than 500 million Yahoo accounts. Bailey says incidents like this flood the market, pushing prices down until the data works its way through the system, at which point prices rise again.

LURKING RECONNAISSANCE

Sometimes the infiltration of your systems will be less obvious than a cyberattack. Reconnaissance is also big business on the dark web, either in preparation for an attack, or as corporate espionage. "A hacker might find a user name and password and they might start to build out a profile on that business, what the monetary value of that data is, what's the best way to exploit that business, who are the key executives in that business. They will then sell that reconnaissance out on the dark web, possibly to another cyber-crime syndicate or possibly to a nation state," says Duo's Ross.

WHISTLEBLOWERS AND DISSIDENTS

Ross is at pains to point out that not everyone who uses the dark web is up to no good. Some media companies, including Stuff in New Zealand, use services hosted on the dark web to allow whistleblowers to anonymously leak information. Dissidents and human rights activists also use the anonymity of the dark web to communicate without fear of reprisal.

^{ee}Directors need to understand that there's a concrete correlation between hackers going for their infrastructures and trying to get their customer details and data, and the financial value that is tagged to that on the dark web.⁹⁹

A SLICK OPERATION

Just because the dark web is underground doesn't mean it's an amateur operation, it's actually a full-service economy. Say you want to infect a website-for as little as \$20 you can buy a piece of malware (malicious software that is intentionally designed to cause damage) or ransomware (software that holds a person's or organisation's data for ransom in exchange for money). To make sure vou get value for money, vou can check out reviews of vendors and products before you buy-just like on mainstream e-commerce sites. There are even customer support services, so if you lack the technical expertise needed to deploy the malware, most vendors will help you out with an around-the-clock helpdesk.

"One of the things that surprises people is how organised the dark web is," Bailey says. "It's not like a bunch of HTML or green-screen DOS pages, it's formulated like a Trade Me site. It's well organised, you can search for the particular bit of contraband you're after, you can get ratings from sellers and buyers that you deal with. It's incredibly well organised."

SILK ROAD

One of the pioneers of the dark web was the now-defunct Silk Road website. The site was one of the first on the dark web to mimic mainstream e-commerce websites like Amazon and eBay. It had profiles of sellers, product listings and transaction reviews. The only difference was the products for sale were illegal drugs and all transactions took place in the cryptocurrency bitcoin.

The site was the brainchild of Ross Ulbricht, who went by the pseudonym Dread Pirate Roberts. Silk Road went live in 2011. Estimates put the site's transactions between US\$15 million and US\$50 million a month, for products ranging from ecstasy to heroin and every drug in between. Ulbricht was arrested in October 2013 and is currently serving multiple life sentences without the possibility of parole following convictions

Protecting your system

Rob Pope, director at government cyber security agency CERT NZ, says while there's no silver bullet to keep hackers out of your systems, there are a number of things businesses and boards can do to make sure they have controls in place to protect both their business and their staff.

"Protecting your organisation from cyberattacks can be as simple as taking the time to understand what risks could affect you, and having mitigations in place so they don't happen. Making sure you can recover guickly if you are affected is just as important, e.g. implementing regular back-ups and storing them offline. In New Zealand we're very aware of the impact that natural disasters can have on businesses and lives, and planning for cyber security issues is no different," Pope says.

CERT NZ has created a check list of measures that it says would mitigate, or better control, the majority of cyberattacks it sees. Its Critical Controls list is based on incidents it has analysed to date,

for money laundering, computer hacking, conspiracy to traffic fraudulent identity documents and conspiracy to traffic narcotics by means of the internet.

"Silk Road when it was shut down was a billion dollar business," says Ross." These guys can make an enormous amount of money very, very quickly and it's borderless. You can be sitting anywhere; you could be in Eastern Europe targeting New Zealand."

via reports and international threat feeds. "These controls are also an effective tool for organisations to start a conversation with their IT providers," Pope says.

CERT NZ Critical Controls

- 1. Patch your software
- 2. Upgrade or replace legacy systems
- 3. Disable unused services and protocols
- 4. Implement application whitelisting
- 5. Change default credentials
- 6. Deploy multi-factor authentication
- 7. Enforce the principle of least privilege
- 8. Implement and test backups
- 9. Configure centralised logging
- 10. Manage your mobile devices

For more information, check out cert.org.nz

Taking the pulse of the global director community

Poverty and income inequality are issues that are top of mind for directors around the world, according to the inaugural *Global Director Survey Report*, conducted by the Global Network of Director Institutes (GNDI), and led by the New Zealand IoD's GLC team.



he survey canvassed global directors' thoughts on key governance matters. It covered areas such as social and economic issues, shareholder and stakeholder engagement, succession planning, board evaluations, board member development, environmental and social issues and technology and information governance.

Some 2,159 directors participated in the survey, from 17 participating GNDI member organisations.

SOCIAL AND ECONOMIC ISSUES

When asked to identify the top three social and economic problems facing their countries of residence, directors named poverty and income inequality (45 per cent), taxation and government spending (41 per cent) and the cost of health care (38 per cent) as their biggest concerns.

Breaking this down regionally, poverty and income inequality was the top social and economic concern for directors in Africa-Middle East (69 per cent) and Asia-Pacific (56 per cent); taxation and government spending topped the list for the Americas (66 per cent), while the cost of health care was top of mind for European directors (71 per cent). In New Zealand, directors saw the top three social and economic issues as:

1 Housing (80%)

2 Poverty/income inequality (67%)

Infrastructure (56%).

STAKEHOLDER ENGAGEMENT AND TRUST

The survey report said directors have a key role in maintaining and growing trust and confidence in business and its role in society. "It is important that boards consider how they build and preserve stakeholder trust." The report cited the Edelman Trust Barometer 2018, which stated: "Trust is a predictor of whether stakeholders will find you credible in the future, will embrace new innovations

NEW ZEALAND'S TOP THREE SOCIAL AND ECONOMIC ISSUES. Housing Poverty/income inequality Infrastructu

you introduce and will enthusiastically support or defend you. For these reasons, trust is a valuable asset for all institutions, and ongoing trust-building activities should be one of the most important strategic priorities for every organisation".

39 per cent of global respondents discuss stakeholder trust in their organisation very often or frequently, compared with 45 per cent in New Zealand. 55 per cent of global directors surveyed reported their boards were actively engaged with shareholders, compared with 68 per cent of New Zealand directors. When it came to employee engagement, 89 per cent of directors surveyed said their boards went through their chief executive or managing director to talk to staff.

SUCCESSION PLANNING

Although the report said that regular and ongoing succession planning is important to ensure the current and future needs of the organisation and board are met, just 22 per cent of respondents said their board were proactively discussing full board succession planning. In New Zealand this dropped to 20 per cent. 29 per cent only discuss succession planning when there is a vacancy (25 per cent in New Zealand), and 23 per cent do not discuss it at all (22 per cent in New Zealand).

"Board composition is a major consideration for the effectiveness and performance of the board,

FACT BOX

2,159 directors participated in the survey

Directors have a key role in maintaining and growing trust and confidence in business

Top three social and economic issues globally: poverty and income inequality, taxation and government spending and the cost of health care

Only 22 per cent of respondents said their board were proactively discussing full board succession planning

51 per cent of boards never, or only occasionally, engage in board member development

and there is an opportunity for directors to be more proactive and not be limited to only addressing individual director vacancies as they arise," the report said.

BOARD EVALUATION

On a global basis, 42 per cent of respondents said their boards formally evaluate their performance on a regular basis (38 per cent in New Zealand), while 46 per cent informally evaluate their performance (53 per cent in New Zealand). Boards in the Americas were more likely to undertake formal evaluations (57 per cent), while European boards were more likely to opt for informal evaluations (55 per cent).

The report said board and director evaluations could be used to focus on continuous improvement and to help board accountability for performance. "Ultimately, the goal of board evaluation is for the board to achieve greater insight from its individual directors regarding strengths of the board and its members, and to identify areas for improvement."

BOARD MEMBER DEVELOPMENT

51 per cent of boards never, or only occasionally, engage in board member development, while 21 per cent do it very often or frequently. "A commitment to continuing professional development underpins good governance," says the report. "Developing skills and building knowledge helps directors to stay current and continue to add value to the board and organisation." >>

**Trust is a predictor of whether stakeholders will find you credible in the future, will embrace new innovations you introduce and will enthusiastically support or defend you.⁹⁹

Source: Edelman Trust Barometer 2018

ENVIRONMENTAL AND SOCIAL ISSUES

"Boards are giving increasing emphasis to environmental and social considerations, non-financial information and their relationship to long-term performance and value-creation. Underpinning this is understanding and responding to the evolving expectations of investors, consumers, staff and other stakeholders," the report says.

Ethical behaviour in organisations was seen as the most relevant environmental and social issue, at 72 per cent (73 per cent in New Zealand). "But it is concerning that it was not at all relevant, or a little relevant to 28 per cent of directors across regions," the report said. "Unethical behaviour ultimately damages organisations and their personnel. Lost customers, employees and sales, and the loss of a hard-won reputation can take years to rebuild. Some organisations may never recover. Conversely, running a company with consistent integrity and high ethical values is simply aood business."

TECHNOLOGY AND INFORMATION GOVERNANCE

"Most organisations use or rely on technology to operate and cybersecurity must be considered as part of enterprisewide risk management," the report says. "The ability of directors to ask the right questions of managers is critical to ensure they are confident in the organisation's cyber resilience."

Despite this, only 53 per cent of global respondents said their board had a high level of understanding about cybersecurity and cyber risks of their organisation, 25 per cent do not have high levels of understanding and 22 per cent said they were unsure of understanding levels.

Big data was viewed as the top potential technology disrupter by global directors, with 63 per cent expecting their organisation to be impacted by it in the next two years. Artificial Intelligence was seen as the next potential technological disruption (60 per cent) followed by the Internet of Things at 46 per cent.

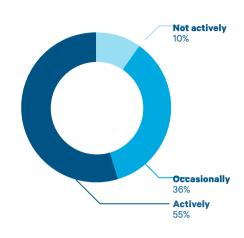
ABOUT THE GNDI

The GNDI was established in 2012 and is an association of sovereign state director organisations. It represents 130,000 individual directors and governance professionals around the world with the goal of improving board professionalism through research, education, dialogue and advocacy.

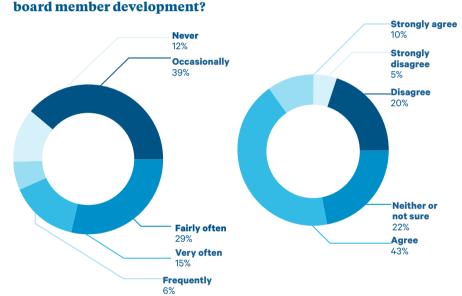
This is the first time the GNDI has conducted a global survey. The Institute of Directors (IoD) in New Zealand designed and carried out the survey and analysed the results.

To read the full report go to **iod.org.nz**









TOP THREE TECHNOLOGICAL DISRUPTORS IN EACH REGION

Ranking	Africa-Middle East	Americas	Asia-Pacific	Europe
1	Big Data	Big Data	Big Data	Big Data
	53%	66%	63%	71%
2	Internet	Artificial	Artificial	Artificial
	of things	Intelligence	Intelligence	Intelligence
	52%	63%	57%	61%
3	Artificial Intelligence 52%	Blockchain 41%	Internet of Things 48%	Blockchain 50%

How frequently does your board engage in ongoing

Treating data with respect

Data is an important tool in getting insights to grow and understand your business. Directors need to know the reasons their organisation is collecting data, where it's coming from and how it can be used.

74 per cent of New Zealand CEOs have overlooked insights provided by data analytics or computer-driven modelling because the findings went against their gut instincts.

Partners of Dot loves data: (from left) Paul Bracewell, Jason Wells, Matt West, Mike Brough

r Paul Bracewell, a partner at data firm DOT loves data and a statistician by trade, says directors don't need to be experts about data, but they do need to have an interest and a basic understanding. "If you're too hands off, you don't understand what's going into the recipe. If you think of it like baking a cake, you need to know what's going into it. If you throw in peanuts and someone has a peanut allergy that's dangerous. It's the same thing with data and data products and the insights you can derive. If you're not fully aware of what's going in, it could lead to issues further down the track."

Despite the insights that data can bring, there is still reluctance in business to trust analytics over intuition. KPMG's recent *New Zealand CEO Outlook Survey* showed that 74 per cent of New Zealand CEOs have overlooked insights provided by data analytics or computer-driven modelling because the findings went against their gut instincts.

Bracewell says that building up trust around data is an important step in getting decision-makers like directors to trust it. Presenting analysis in a way that is not just statistically significant, but that is easily understood and practical is an important part of the process. "It's got to be meaningful, it's got to be robust, it's got to be transparent. If you can go through and can say 'this is the reason why this has happened' it builds up trust." >>



Dr Paul Bracewell, Partner, Dot loves data

Respecting your data

How to gain a competitive edge from the data you obtain.

- Respect the people who provide the data.
- Respect the insights the data provides.
- 3 Understand where it has come from and how it works.
- Use it to drill down on why things go wrong.
- When you find positive insights, try to replicate, test and learn from it.
- Its not just about number crunching. Use your data to hear what people are saying about you.
- The customer is the main beneficiary of any analysis.

"So, if one time you get a result that is counterintuitive, then if you have gone through and built up that level of trust then people will be able to understand what's going on."

"It's got to be meaningful it's got to be robust.

it's got to be transparent.

If you can go through and can say 'this is the reason why this has' happened' it builds

up trust."

Bracewell talks about respect a lot when he discusses data-respect for the people providing the data, as well as respect for the insights that data provides.

"If you're respectful of your data, you treat it properly and you understand where it has come from and how it works, it becomes a tremendous competitive advantage. If you're able to predict what's going to happen and then be able to go through and understand why you got there, or why you didn't get there or why did you over-achieve, then you can create positive actions."

He says data can be used to sensecheck what is going on in your business. "You can drill down what went wrong and why it went wrong, or conversely, what went really well and how you can do that again. It's not just about finding things that went wrong, it's also about finding the really good things that you can potentially replicate, test and learn from." "It could be that this time of year we normally expect to see x amount of sales of ice creams, but the weather was y per cent lower than usual, and we can't control that. But you can go through and articulate a clear story. What it also means is that you can use that to refine operational processes. You can say ok, well if I know ice cream sales are linked to temperature, or something along those lines, you can say the long range forecast is this, do I need to ramp up production to meet those needs?"

It's not just about analysing sales figures and number crunching. "It's also about what people are saying about you, whether that be mainstream media, or social media, there are the tools out there to do natural language processing, to go through and look at that information in an insightful way and say well what is the sentiment about our brand?"

If directors are not data experts, then having access to people who are is important. "If the people making the decisions wouldn't describe themselves as analytically savvy, then they need to have someone who they trust to help shape those analyses and help propel the business."



PUTTING CUSTOMERS FIRST

For Bracewell, it's important that the data businesses collect, and the people who provide that data, are treated with a high level of care. "The message about privacy and legality and morality needs to be hammered home. There is a duty of care. Data is always going to contain information that is valuable to someone. Because it's valuable to someone, it needs to be treated and cared for appropriately."

Done right, collecting data from your customers should be a win-win. "It's the people, the customers and other stakeholders, who provide the data. So you have to be really respectful of the fact that your engagement with them has resulted in you getting this data. The major beneficiary of any analysis should be the customer. The data should help you work out how you can do things smarter for them, getting them the right products, at the right time, in the right place, for the right price."

BIG DATA IN THE BOARDROOM

Big data is high on the global agenda for directors. The recent Global Network of Director Institutes (GNDI) survey found that 63 per cent of directors viewed big data as the top technological disruption to their organisation. Despite this, only 28 per cent of respondents to the survey said they were using big data to support decision making.

There was a considerable variation across organisation size, with 25 per cent of businesses with fewer than 100 employees using big data, compared to 35 per cent of organisations with more than 10,000 employees.

"The value of big data turns on an organisation's capacity to analyse and utilise it," the survey report says. "Boards not already doing so should gain an understanding of how they can leverage big data and related analytics to create value." The report found that data is an asset that is massing exponentially and there is an opportunity for directors to develop their skills and knowledge in their areas. "By making the best use of the data their organisations have available, boards can use data analytics to detect, investigate and monitor patterns and transactions across the organisation."

"The ability to draw conclusions from data that organisations collect and maintain is an important strategic decision-making tool for directors. Predictive data analytics is increasingly contained within software, and being an analytics driven organisation from the top helps create long-term value, drive competitive advantage and manage risks."

Opening up to big data



It's impossible to view open data and big data separately, says founder and managing director of KiwiSaver scheme Simplicity, Sam Stubbs. "You have to view them together, because big data is only useful when people have access to it. The more people have access to it, the more you'll invest in providing it. Those forces go together and I think you'd be naïve to assume you can have one without the other," Stubbs says.

WHAT IS BIG DATA AND OPEN DATA?

Big data is a term that encompasses extremely large volumes of data that have the potential to be mined for information. It covers all kinds of data, from spreadsheets and databases to social media posts, audio, emails, PDFs, digital images and videos, and GPS. It's not just about what kind of data you have, or how much, but what you do with it. Analysing big data can lead to insights that bring cost and time reductions, optimised customer offerings and better decision-making.

Open data is data that can be accessed, used and shared by anyone. It is information collected by government, businesses and organisations, added together to be anonymous so it can then be redistributed and re-used. Data.govt. nz defines it as "open licence, openly accessible and both human-readable and machine-readable".

PARADIGM SHIFT

Stubbs, who regularly visits the boardrooms of large New Zealand companies in his role as an institutional shareholder, thinks that embracing open data and big data will require a mind-set change for businesses. Until recently, he says, most businesses have operated as castles, building a moat around their operations and protecting their data. "They have spent a lot of time acquiring proprietary data and protecting it. Now, they need to put as much, if not more, effort into opening up the data they have available in exchange for more data. consolidating it and getting better quality information."

"That's the challenge for businesses, to go through the mind-set change that all of this stuff they've been acquiring over decades, which had tremendous value, might now actually be free." Rather than protecting data from others, he thinks businesses need to create a marketplace for it. He cites retail as an example. "The retailer who protects their data is going to have an incomplete picture of their customer. They need to think about how they are going to get their customers' permission, or not, as required, in order to swap that information with other likeminded organisations in order to present a package of goods and services maybe. Power companies cross-selling to telephone companies, who cross-sell to provide retailer discounts, all of those sorts of things."

PRIVACY AND POWER

Stubbs admits that privacy is a major concern when it comes to data sharing, but says consumers are becoming increasingly comfortable with sharing information about themselves if they get something in return. "By and large, what we've learnt about this is that if the consumer sees a benefit in providing their information they will. This is about incentivising people to provide that information. And there's a whole lot of information that people don't care about. They don't care about anyone knowing what power company they use, for example."

He says with open data consumers can effectively sell their information. "A classic example might be your spending patterns. You might agree to make that available to a third-party research house in return for a payment, or you might agree to make that available to a retailer in return for a discount so that they might be able to target you more effectively."

He says the thought of private data being used for commercial purposes is "both scary and exciting" but that he hasn't seen many "nefarious consequences" of it. "The vast majority of this information is actually beneficial to your life, not detrimental to it." Every now and again, we hear a scary story of Facebook or someone tracking you and we all get spooked by it, but by and large it's something we tolerate in our lives and in fact, welcome."

When data is misused or privacy is breached, the public and consumer backlash is usually severe, incentivising businesses to use data responsibility and to protect it. "As soon as someone takes advantage you just go and tell everybody, and suddenly that information flow is cut off. If it gets cut off from the business that has taken advantage of it, they are screwed. If that business is relying on it, they are not going to do anything to risk getting cut off from that data. I've seen relatively few abuses of the information people provide. I've been underwhelmed, not overwhelmed," Stubbs says.

PRODUCT VS MARKETING

Stubbs says the phrase 'product is everything' is big in fintech. In the past he says the focus used to be about the quality of the sale and the commission rather than the product itself. "It used to be that you could protect your distribution, and your product didn't need to be that good, as long as it was sold well."

Now, Stubbs says big data means consumers have massive transparency about products and can easily compare them. "You can switch products very easily, you can switch power companies about every week if you wanted to. So now the product really is everything. What you are offering, the honest-togoodness product is what really matters. I think the tectonic shift for most industries is 'is your product the best it could possibly be?"

"... big data is only useful when people have access to it. The more people have access to it, the more you'll invest in providing it."



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Out & about



Nelson Marlborough Air New Zealand Chief People Officer Jodie King gave an inspiring presentation to a sold-out branch lunch in Nelson on 9 August on Why Culture Matters (above).

Kathryn Bell presented a Chartered Member certificate to Aaron Moody at this event (right).









Chair of Sport and Recreation New Zealand and High Performance Sport New Zealand, Bill Moran, spoke at an Invercargill lunch event about Emerging practice – which stakeholder interests should directors take into account?

Otago/Southland

Chief Executive of Real Journeys, Richard Lauder, spoke at a Wanaka event about culture and reputationkeys to success in the tourism industry.







- 01 Jodie King giving her presentation.
- 02 Olivia Hall, head of Te Toki Pakohe at the Nelson Marlborough Institute of Technology and IoD branch committee member, leads a very popular Intro to Te Reo Māori workshop as part of Māori Language Week in Nelson in September.
- 03 Dingle Foundation regional manager Kelvin Watt, IoD Nelson Marlborough branch committee chair Sarah-Jane Weir, Sir Graeme Dingle and IoD GM Members Nikki Franklin at an August branch networking lunch in Blenheim where Sir Graeme shared some of the wisdom from his journeys.



Canterbury

Next Generation Director Workshop (Top left) Sue Sheldon and Lloyd Mander facilitating discussion around effective compliance at Canterbury's Next Generation Workshop.

(Top right) Deep in discussion with facilitator Vincent Pooch.

Governance and Failure

Associate Professor Ekant Veer of University of Canterbury (right) led a robust discussion on failure.

New members lunch

In early August IoD Chartered member Kate Morrison shared her governance and Chartered Membership pathway experiences and IoD Chartered member Paul Bell from Intepeople gave insights into how to prepare for your next governance role.









04 Ian Farrant and Richard Lauder.

05 Carl Carrington receiving Chartered Member certificate from Alan Harper.

- 06 Dell Taylor and Sarah Ottrey.
- 07 Panellists Mads Moller, Richard Shepherd, Dr Rachel Wright, Associate Professor Ekant Veer.
- 08 Paul Bell speaking at Canterbury's members lunch.
- **09** Assoc. Prof Ekant Veer explaining why we need to be prepared to fail smart and fail fast.

Out & about

Waikato

Hon. Amy Adams, National Party Finance spokesperson talked about Government policy and its impact on New Zealand's economic performance and resilience at a lunch event in Hamilton.

Executive chair of KPMG in New Zealand, Ross Buckley, presented Lessons for directors from recent failures at a breakfast function in Hamilton.





- 11 (from left) William Durning, Mark Morgan, Hon. Amy Adams and Hon. Tim MacIndoe.
- 12 Ross Buckley talking to the Waikato branch.
- 13 William Durning and Paul Street.



Entertainment delivered.

Let the sensory overload begin. With the launch of EntX, Christchurch now has a new home of entertainment right in the centre of the city, complete with seven HOYTS cinemas and over a dozen diverse eateries. Developed and built by Calder Stewart, EntX is the result of a vision to go beyond building a cinema complex, to create something special for the city and the community to enjoy. And it's open now.

Get a behind the scenes look. Visit calderstewart.co.nz/entx



Eventsdiary

For more information visit **iod.org.nz**, contact the director development team or contact your local branch manager.

October

November

- 23 Queenstown Lunch event with Kathy Grant
- 24 Nelson Finance Essentials
- 25 Nelson Reporting to the Board
- 25 Auckland Director Accelerator Lunch
- 26 Christchurch Sponsor's breakfast with Duncan Cotterill
- 28 Queenstown Company Directors' Course
- 29 Auckland Governance Essentials
- **30** Auckland Digital Essentials
- 31 Auckland Finance Essentials
- **31** Palmerston North Lunch with Graeme Milne
- 31 Wellington How to build your board career

31 Blenheim IoD and Chamber of Commerce panel discussion

- Wellington Breakfast: Governance in Government with Tim Ng, Treasury
- 1 Tauranga Next Generation Workshop
- 1 Auckland Strategy Essentials
- 2 Auckland Risk Essentials
- Christchurch O
 Lunch with Peter Bailey,
 A foray into the dark web
- 4 Wellington Company Directors' Course
- 5 Christchurch Next Generation Director workshop
- 6 Auckland Ethical Dilemmas in the Boardroom
- 6 Hamilton New member welcome lunch
- 6 Dunedin Board Dynamics
- 6 Wellington 📀 Breakfast with Peter Bailey

7

Wellington New member welcome event-invitation to all branch members

- 8 Dunedin Working with the Board
- 11 Waiheke Island Company Directors' Course
- 12 New Plymouth After work with Shaun Twaddle
- 12 Auckland Early evening cocktails with blockchain expert Mark Pascall
- 13 Invercargill Julia Jones speaks on Agribusiness
- 14 Dunedin Laurie Sharp
- 14 Tauranga, Tax and Governance Interactive workshop luncheon
- 14 South Auckland (this event will also be available nationwide via webcast) A World of Data
- 14 Auckland Special breakfast with Murray Sherwin
- 14 Hamilton Not-for-profit summit
- 14 Wellington Annual dinner, guest speaker Rob Everett

- 16 Auckland Working with the Board
- 20 Auckland Audit and Risk Committees
- 20 Auckland Welcome Cocktails – invitation to all branch members
- 21 Auckland Governance Essentials
- 22 Auckland Finance Essentials
- 22 South Auckland Next Generation Director evening workshop
- 22 Tauranga Christmas lunch with Wayne Boyd, former chair for Telecom
- 25 Queenstown Company Directors' Course
- 26 Christchurch Evening function with Steven Newman
- 30 Christchurch New members' lunch

Now you've read me log me CPD points

December

 Auckland Company Directors' Course, Non-residential

3 Christchurch Christmas function

5 Tauranga A World of Data panel

Online Learning

Any time, anywhere. Offering convenience and flexibility, our selfpaced courses provide focused online learning. Progress through the course slides, interactive diagrams, videos and reflective exercises at your own pace.

Health and safety governance 3 CPD points

Ethics – how directors do business 3 CPD points

Directors' and Officers' insurance 2 CPD points

Not-for-profit fundamentals 3 CPD points

Cybersecurity 3 CPD points

Webinars

Live webinars are facilitated by subject matter experts, and themes from your questions and comments are addressed live during the sessions.

22 November Data Privacy, 10.30am – 11.30am, 2 CPD points 14 December, Data Governance, 10.30am – 11.30am, 2 CPD points

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BRANCH EVENTS

For information on member events in your area, see iod.org.nz



A World of Data

Free live webcast–How companies are benefiting from the strategic use of data.

In an increasingly digital world how will the companies you govern continue to thrive?

How do you leverage the potential of big data and data analytics to innovate, to optimise operations and supply chains and improve outcomes for customers?

Our panel brings together directors from a broad cross section of industries who can share first-hand how their organisations are benefitting from the strategic use of data. Panellists are Joanna Perry, Ben Kepes and Sam Knowles. IoD chief executive Kirsten Patterson will facilitate the event. You can attend the event in person at AUT's South Campus, or via a live webcast.

November 14 5.30pm – 7.30pm, AUT South Campus, webcast from 6.00pm – 7.00pm.

So to iod.org.nz/what-matters for more details and to register.

Every organisation needs strong governance and leadership to progress.

ONE STEP) AHEAD

Find out how ASB can support your business through our partnership with IoD.

Get in touch with Melanie Beattie, Head of Strategic Partnerships Melanie.Beattie@asb.co.nz

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