

## **The Digital Board**

Andrew Donovan, Principal, Thoughtpost Governance

### **Introduction**

“Fortune Favours the Brave”. In your experience how brave are directors in adopting technology to enhance their performance? In a recent survey conducted on this topic to an audience of directors in Hong Kong 57 percent said that their boards were not ready to adopt digital advances in the boardroom, with seven percent saying boards are resisting it all together.

Do they need to be brave? As with everything in the world of boards there is the compliance answer and the performance answer.

As to compliance, a paper from Deakin University suggests that AI could check the alignment of management with owner’s interests saying “the key benefit [of AI] is to mitigate agency costs in corporate management. Board independence (along with disclosures) seems to be the chief tool thus far in the arsenal of corporate law to counter agency costs. Since these tools have not always succeeded, AI might be a significant solution provided that the right set of incentives are put in place to ensure its effective and ethical use.”

As to performance, a paper from INSEAD suggests that the breakdown of global networks, the rise of regional powers and economic nationalism means that “we are entering an unpredictable world where we will all have to reckon with finding strategies that enable us to prosper in different sets of circumstances, different markets and different environments... [and] with no overriding global values systems to guide their development, no harmonisation of norms and no synergies to be leveraged. Boards, then, will be expected to be more agile and resilient in order to withstand mounting scrutiny and tensions.”

Put more simply, the digital enhancement of boards is an opportunity to create stand-out competitive advantage in an increasingly complex and changing world.

I’d like to explore three areas of interest. Firstly, the ways in which boards can use technology to enhance or replace the way they work and govern. Secondly what sort of implications that has for the type of director we will need in the future and finally where to you start on the journey.

## Enhancement & Replacement

In my mind there are three clear functions of the board that can be enhanced or replaced right now. These are in decision making, assurance and board performance.

### Decision Making

Humans are biased. That's not always a bad thing. For example, is it a bad thing to be biased towards happiness while biased against harm? There are a disconcerting 188 cognitive biases potentially at play within the human mind, with a smaller sub set that punch above their weight in contributing to poor decision making.

One of the most dangerous in the boardroom is a bias towards social cohesion that leads to group think. In the Deakin University paper mentioned above entitled "The Perennial Quest for Board Independence - Artificial Intelligence to the Rescue?" Akshaya Kamalnath says that in contrast to most humans 'AI is not afraid to upset its friends.'

To add injury to insult, while we humans have a near unlimited capacity for judgement, that is general intelligence (some predicting we won't create artificial general intelligence until 2050 at the earliest), we have limited data processing abilities.

Human biases and limited data processing mean that augmentation of board decision making using AI and machine learning is an obvious place to start. Many people are aware that a Hong Kong life sciences investment firm "appointed" a robo director algorithm called VITAL to the board in 2014. VITAL has a veto "vote" over all investment decisions.

VITAL is still there with a board succession plan for a director upgrade to occur soon with VITAL 2.0.

In addition to data crunching for decision making, the internet has an almost unlimited capacity for stakeholder and expert input. Whether it is programs for customer co-design of products, stakeholder engagement forums and crowd sourcing of expertise.

For the last three years I have had the privilege of facilitating cohorts of nine young would-be directors through a board training and development program. In addition to the mentoring and training they receive from board members I established a parallel board meeting program. Once a year, usually in the same week, the board meets as usual, while the directors-in-waiting meet with the same agenda, papers and management on another day.

In the first year of the program the emerging leaders, seeing the most complex strategic issue on the agenda, said 'well it's obvious we can't solve this on our own, we should upload it to the internet for feedback'. Using a crowd sourcing platform, they anonymised the issue and sought input. Leading practitioners and academics around the world proceeded to freely advise.

In the age of the internet, the idea that putting nine smart people in a room by themselves with some good data and hoping they will come up with the best solution seems somewhat quaint.

[Note: blockchain as a replacement or enhancement to legal incorporated itself is a fascinating and potentially game-changing development beyond the scope of this paper, but an area worthy of close attention<sup>1</sup>.]

### Assurance

The largest burden on boards and management is the compliance and assurance agenda. Is everything we need (compliance) and everything we want (assurance) getting done? It's a massive waste of the supercharged experience and intellect sitting in the board and C Suite.

Data analytics, with appropriate human oversight, can change that. It's not that dissimilar to an airline captain currently who is routinely redundant but every now and then critically committed. As one pilot said to me of the role, it's 99% boredom and 1% sheer panic.

A mid cap listed technology firm has no board papers. After much thinking and design, they have come up with a dashboard-like data analytics program, back-ended into the company's enterprise systems. Based on board-agreed parameters, directors can manipulate and interrogate the data in numerous ways based on their areas of focus.

Significant investment is flowing into the field known as Regtech (regulatory technology), with risk management in the banking and finance sector leading the way. AI is being used extensively for lending assessment, managing market risk, compliance and fraud detection. Boards have much to learn from them. Likewise, we should be looking to other AI-leading sectors such as health (see Appendix).

Lastly, under assurance, the increasing focus of the board's role in culture means data analytics may play a role in the people side of governance. While controversial, the use of programs to determine the state of the companies "internal voice" offers an opportunity to get a more visceral perspective on the internal pulse of the organisation.

Managing Partner of governance advisory firm Black Hall and Pearl, Alec Bashinsky, describes "a booming text-analytics industry that is attempting to draw insights from the language used by the workers and management within an organisation. US data analytic firm KeenCorp uses language analysis software of emails to track employee engagement and predict behaviour." "While humans remain far more capable of understanding the context and sentiment of language, machines are better at analysing patterns in vast amounts of data" he says

### Performance

In the area of board operations there are at least three areas of scope for technology enhancement: intelligence gathering, collaboration and recruitment.

Like all humans, directors, even if from the industry, don't know what they don't know. There are opportunities for customised director online learning and information feeds, videoing of induction programs, web bot crawlers that seek out industry and market intel based on learning

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<sup>1</sup> [https://qz.com/695499/is-the-future-of-business-a-company-without-workers-managers-or-a-ceo/?utm\\_source=The+Financial+Revolutionist+Weekly+Briefing&utm\\_campaign=5be4c59d5c-Weekly+Briefing+No+31&utm\\_medium=email&utm\\_term=0\\_bbba91202b-5be4c59d5c-77023849](https://qz.com/695499/is-the-future-of-business-a-company-without-workers-managers-or-a-ceo/?utm_source=The+Financial+Revolutionist+Weekly+Briefing&utm_campaign=5be4c59d5c-Weekly+Briefing+No+31&utm_medium=email&utm_term=0_bbba91202b-5be4c59d5c-77023849)

from a director's searches and engagement with online material including time spent on various parts of the board papers.

There is an inordinate cost in getting directors together. This should continue to happen because magic happens when people get together. But it should be for premium engagement: strategy, major decisions, complex relationship management issues and crises.

Ask your management what staff are using to collaborate, and it won't be the clunky, highly restricted, litigation proofed board portals on offer. It will be highly open, engaging, interaction driven business collaborations tools such as Basecamp, Slack, Trello, Samepage or an in-house designed system.

For one board I'm involved in we have a no email policy. All docs and conversations happen on the platform and as chair I encourage and expect directors to ask technical (what I term "me" question)s on the platform with a 48 hour management response time, "we" questions, ones that lead to insight or discussion, remain for the board meetings.

What about we go further and super charge the times when we have to meet remotely. Microsoft has invested significantly in a technology they term "Holoportation"<sup>2</sup>, the latest advance in augmented reality, where meetings are conducted (all be it with googles) providing most of the sense and body language of face-to-face meetings. This is already being used for telehealth in remote Australian communities.

Finally, there is opportunity in board recruitment. Notwithstanding a diversity push, we currently draw directors from narrow selection pools based on biases, risk aversion and the cost of acquisition. While controversial, maybe China's social credit system offers some leads in this area.

In a paper by academics from universities of Ohio State, Washington and Colorado using publicly available data on firm, board, and director characteristics, they say that their XGBoost algorithm can accurately predict the success of individual directors, and in particular, can identify which directors are likely to be unpopular with shareholders.

"The differences between the directors suggested by the algorithm and those actually selected by firms allow us to assess the features that are overrated in the director nomination process ... it appears that firms choose directors who are much more likely to be male, have a large network, have a lot of board experience, currently serve on more boards, and have a finance background. A machine-learning algorithm, which is much more sophisticated than the algorithms relied on by psychologists, would allow firms to improve their board selection process."

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<sup>2</sup> <https://www.fastcompany.com/3058326/microsofts-wildest-experiment-yet-lets-you-teleport-with-holograms>

## **Embracing adoption**

This is all very well but we need directors who can rise to the challenge. We need directors with the motivation, predisposition and capability to explore and adopt beneficial technology.

But directors are not always early adopters and often times they are laggards. A Deloitte study in January 2019 concluded that “digital technologies (like data analytics and AI) can help boards process information effectively ... [but] most directors seemed hesitant about having to use advanced technologies.”

It's not straight forward. First of all, there are implications for director's duties. Akshaya Kamalnath Deakin from Deakin University again “as AI for boards become more reliable, corporate law will have to evolve to ensure that duties of officers are meant to ensure the safe and efficient use of AI.” Director liability will require that any legal precedent is built in to any automated process such as AI, machine learning and data analytics.

There are many challenges of technology use in governance. From the strategic, to the ethical, to data integrity and security to AI decision making transparency<sup>1</sup>. These challenges will require directors to fine tune and acquire new skills.

There will be implications for director time requirements and levels of engagement to learn and monitor organisations and stay on top of the latest technology. A chair of a leading Australian bank recently told me that one of their otherwise valued directors said, “I am too old to change”. The chair responded, “well then you are too old to be a company director.”

A paper from MIT Sloan (my “go to” place for all things digital in business) says “boards and executives with the right competencies and mental models will have a real leg up in figuring out how to best utilize this new information. While technology is growing exponentially, leaders and boards are only changing incrementally, leaving many legacy organisations further and further behind. It's time for leaders to courageously admit that, despite all their years of experience, AI belongs in the boardroom.”

As Warwick Peel, founder and director of Start Up Boards, says we need to move from directors who are “know it alls” to ones who are “learn it alls”<sup>3</sup>.

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<sup>3</sup> <https://www.linkedin.com/pulse/innovation-boardrooms-can-become-australias-greatest-weapon-peel>

## **How to start the conversation**

**Start with the Problem.** Identify the biggest board pain points and value opportunities and research and assess their potential to be digitally optimised.

**Show examples.** Present to the board on how the organisation is using technology in similar areas within the organisation or in other organisations or boards. For example, nearly all organisations are using online collaboration tools; get staff members to show how a project was enhanced by the use of that technology.

**Engage champions.** It often won't be the chair or senior directors. You may have to find respected comparators; boards feel more comfortable following the lead of credible peers. Bring in outside thinking. Set up an agile project team; appoint an outsider to bring in new thinking. Use a different methodology to plan activities such as agile processes; sprints and scrums.

## **The End**

It's clichéd but obvious that boards are operating using 19th century mindsets and technology in a 21st century world.

Care must be taken to protect what's good about human-centric boards, but courage must be also be taken to embrace the benefits of digitally enhanced boards. I urge directors to not be complacent about the emerging disruption of boards and governance and to embrace it as the new competitive advantage of our time.

[Adapted from a speech given on The Digital Board, 18 June 2019, Hong Kong.]

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**Selecting Directors Using Machine Learning**, April, 2018 Michael S. Weisbach is Ralph W. Kurtz Chair in Finance at The Ohio State University Fisher College of Business, and Research Associate at the National Bureau of Economic Research; Isil Erel, Distinguished Professor of Finance at The Ohio State University Fisher College of Business; Léa Stern, Assistant Professor of Finance and Business Economics at the University of Washington Foster School of Business; and Chenhao Tan, Assistant Professor at the University of Colorado Boulder.

## **Appendix: Board Lessons for AI in the medical field**

“The first advance is an enormous body of data. From the mapping of the human genome to the accumulation and organization of databases of clinical research and diagnoses, the medical world is now awash in vast, valuable new sources of information.

The second advance is the ability to quantify an individual. Improvements in mobile technology, sensors, and connectivity now generate extraordinarily detailed insights into an individual’s health.

The third advance is the technology itself. Today’s AI techniques can assimilate massive amounts of data and discern relevant patterns and insights — allowing the application of the world of health care data to an individual’s particular health care situation.

These techniques include advanced analytics, machine learning, and natural language processing. As a result of the deployment of intelligent systems in health care, doctors can now map a patient’s data, including what they eat, how much they exercise, and what’s in their genetics; cross-reference that material against a large body of research to make a diagnosis; access the latest research on pharmaceuticals and other treatments; consult machine-learning algorithms that assess alternative courses of action; and create treatment recommendations personalized to the patient.

## **Three Steps Companies Can Take to Bring AI into the Boardroom**

A similar course will be required to achieve the same results in business. Although not a direct parallel to health care, companies have their own components — people, assets, history —which could be called the corporate genome. In order to effectively build an AI system to improve corporate decision - making, organizations will need to develop a usable genome model by taking three steps:

1. Create a body of data by mapping the corporate genome of many companies and combine this data with their economic outcomes;
2. Develop a method for quantifying an individual company in order to assess its competitiveness and trajectory through comparison with the larger database; and
3. Use AI to recommend a course of action to improve the organization’s performance — such as changes to capital allocation.”



## ENDNOTES

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### <sup>i</sup> Challenges

#### (1) Constraints

- a. data accessibility and integrity
- b. skilled workers
- c. transparency
- d. AI risk and systemic risk

(2) Ethics: who decides who the algorithm chooses is killed in an accident involving a driverless car? Germany has legislated for a “least harm” principle to be included.

#### (3) Transparency

- a. a model governance framework for AI was recently released by Singapore. The two main principles underpinning the framework are that (i) decisions made by or with the help of AI should be explainable, transparent and fair to consumers; and (ii) AI solutions should be human centric.”
- b. “First and foremost, deciding what information would be relevant for board decision making is important. Relatedly, care must be taken not to code biased perspectives into the AI. Second, securing the information within the AI should be prioritised. Third, while we await legal regulation regarding AI, directors and developers must ensure that the AI’s decision-making process should be transparent.” *ibid* Kamalnath.