

Artificial Intelligence – The Machines are here so Boards need to step up



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Although Artificial Intelligence (AI) has been in existence for over 70 years, it was previously in the domain of universities and tech companies. Today AI is regarded as the most powerful transformation to affect business and society since the invention of electricity

- so it is now the domain of the Board.

Frameworks, governance models, organisational design, human rights and ethics considerations for AI are all topics that Boards should be discussing. So, let's unpack what AI is and how Boards should think about it.

The term Artificial Intelligence was coined in the year 1956, at Dartmouth College, where a group of scientists determined that "every aspect of intelligence can in principle be so precisely described that a machine can be made to simulate it".

AI is now defined as applying to any technique that enables computers to mimic human

intelligence, using logic, if-then rules, decision trees and machine learning.

Machine learning is a subset of AI and includes statistical techniques that enable machines to improve at tasks with experience. The core capability in most machine learning is called Deep Learning or Neural Nets. These Neural Nets work by programmers feeding a particular learning algorithm with terabytes of data, say hundreds of thousands of images or speech samples, to train it, then the computer figures out for itself how to recognize certain images or to words or sentences. And now essentially computers can teach themselves.

The main types of AI that Boards should be aware of include:

1. **Machine Learning** – used for Modelling: Predictive, prescriptive, fraud, recommendations
2. **Computer Vision** – used for Recognition: Image analysis, facial detection, sensors
3. **Conversational Platforms** – used for Engagement: Virtual Assistants, chatbots, translations
4. **Autonomous Machines** – used for Motion: Self driving cars, drones, robotic deliver

According to the analysts AI is the fastest growing tech sector in the world (50% CAGR). Currently there is \$7.3bn of investment per annum will surge twelve-fold to \$89bn in the next five years (JP Morgan 2018). The two major areas of investment into AI technology fall into:

- Intelligent automation; and
- Labor and capital augmentation

Forrester (2017) states that AI driven companies will take \$1.2 trillion from competitors by 2020 and Gartner notes that AI will generate \$2.9



trillion in business value and recover 6.2 billion hours of worker productivity by 2021.

Gartner also states that by 2020:

- 30% of all customer interactions will be performed by machines
- Fastest growing companies will be conducting over 50% of transactions using machines; and
- 40% of enterprises will have Virtual Assistants serving customers

Let's look at some examples of AI:

- **Google Translate** now renders spoken sentences in one language into spoken sentences in 32 languages plus text translations of 103 tongues
- **Google** has over 1000 deep learning projects underway
- **Microsoft** recently announced that AI was its primary strategy. Microsoft now uses AI for its search rankings, photo search and translation systems
- **Facebook** uses neural nets to translate 2bn user posts per day in 40 languages
- **Flamingo Ai** uses unsupervised and reinforcement learning algorithms that automate the structuring of unstructured data (like contact centre conversational data), Bots that act as Subject Matter Experts and Bots that service or sell products or services

And what do customers think of AI, Bots and Virtual Assistants?

In Ethical AI Advisory's own research of consumers (500+) we found:

- 77% were comfortable to very comfortable using a chat bot
- 78% thought a bot would improve their online experience
- Consumers said about AI based bots:
 - It would help me to get things done.
 - It would ensure that I make a purchase without any hiccups
 - It makes it easier to access instant & basic help
 - Because if it can answer my worries I would complete the purchase



So why now?

Essentially there have been two forces at play – one is the increased computational power and the other is the existence of big data which is used to train the algorithms.

But more than this - by acting like a capital-labour hybrid, Artificial Intelligence offers the ability to amplify and transcend the current capacity of capital and labour to propel economic growth.

So, the primary reason why there is such an emphasis on AI is the recognised decline in the ability of traditional levers of production, capital investment and labour, to propel economic growth (Accenture 2018).

Hence, it is time now for Boards to step up and start to learn about AI, its uses, frameworks, its shortcomings and know how to build an AI strategy that will amplify or augment the traditional operational model.

Top 16 Issues that Boards should be considering

The primary questions Boards must ask themselves in relation to AI include:

Strategy:

1. What is our company's AI strategy?
2. What is the business case for AI? What return do you expect?
3. What should be your Return on Learning (ROL)?

Organization:

4. What AI or Shadow AI (AI that is being done without the knowledge of the CIO or CTO) is there already?
5. Who will be the Head of AI and who will co-ordinate all types of AI being introduced?
6. Does AI sit with Technology, the CIO, Digital, Transformation, Innovation or other department?
7. Should you develop an AI Center of Excellence?

Customer:

8. How will AI add value to your customers?

Technology:

9. Should you build AI in-house vs engage one vendor vs select best of breed?

10. How will you ensure the algorithms that are being used by your organisation are accurate and the right models for your business?

11. Who has trained or is training the algorithms?
12. How will you ensure that the algorithms have not been trained with gender, diversity or other bias?
13. What are your company's security requirements around AI?

People:

14. Given AI will replace or augment human jobs, what will be your future organisational structure that will include Digital Labour positions as well as HAVA (Human Assisted Virtual Assistants) or HAMA (Human Assisted Machine Assisted) roles?
15. How do you develop a culture that embraces Human-Machine workplaces in order for the technology to amplify legacy system capability and augment human capability?
16. How will you manage communications to employees about AI and how it might affect their jobs?

The imperative

Andrew Ng from Baidu, the world's largest AI company, notes, "A lot of S&P 500 CEOs wished they had started thinking sooner than they did about their internet strategy. I think 5 years from now there will be a number of Boards and CEOs that will wish they had started thinking earlier about their AI strategy. AI is the new electricity, just as 100 years ago electricity transformed industry, AI will now do the same."

And from the world's most active AI entrepreneur Elon Musk, "Companies have to race to build AI or they will be made uncompetitive. Essentially, if your competitor is racing to build AI, they will crush you."

It's now up to you, the Board, to drive your AI strategy. Do not and it's at your company's peril.

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