

## Drucker vs AI, Who Would Win?

### Introduction

The modern conflict between man and machine is palpable. Humanity inexorably advances in intellect, ambitious endeavors, and social progress. Meanwhile the technology that humanity creates morphs and evolves as challenges arise and are overcome. With each entity advancing, who wins?

As Peter Drucker noted in his article which was published in Forbes magazine<sup>1</sup>, the first information revolution involved the development of writing approximately 6,000 years ago. The second was the concept of writing books, which happened as early as 1300 BC in China. The third information revolution was the invention of Gutenberg's printing press in the mid 1400s. Finally, the most recent and disruptive of these information revolutions is the one we are currently immersed in. Never has so much information been generated, stored, analyzed, queried, or retrieved than now. The epitome of this revolution is Artificial Intelligence, but what do we mean by such a buzzword?

AI can mean many things, especially to the uninitiated. To some, AI conjures up SkyNet and a futuristic dystopian society where technology has subjugated humanity. For others it may mean humans combining with machines to such a degree that human traits like emotions and free will are suppressed (think Borg). Still others see it as a panacea of all human ills: mental, physical, and the like. To me, AI is simply nothing more than a collection of algorithms. Brilliant engineers conjure up automated solutions to complex problems based on proven methods such as statistics, pattern recognition, Bayesian formulas, novel technologies like deep learning which mimic the human brain, and so on. These AI systems, though, are still developed for specific purposes with limitations and conditions under which they can be trusted.

Peter Drucker was a forward thinker. While he may not have lived to see how advanced technology such as AI has become and how much further it will evolve, his thought framework does apply to the issues that arise in management due to AI. Let's spend some time in the fighting ring and consider some of these issues. AI is a disruptive innovation, how can Drucker's philosophy help managers adapt to this new revolutionizing concept? Drucker spent significant time discussing healthcare-related examples throughout his publications. Would he agree that AI is beneficial for this vital market? AI's power can be all-encompassing. How much should AI be controlled? In the end, do humans and AI have to be in perpetual conflict or can a mutually-beneficial symbiosis be achieved?

### Round 1: Disruptive Innovation

An area that business leaders and management must be attentive to are innovations that threaten their businesses. It is tempting to ignore them since they do not pose much of a threat at first, but can eventually reshape large sectors of the economy. As The Economist says:

*Disruptive innovations usually find their first customers at the bottom of the market: as unproved, often unpolished, products, they cannot command a high price. Incumbents are often complacent, slow to recognise the threat that their inferior competitors pose. But as successive*

1 Drucker, Peter F., "The Next Information Revolution", Forbes, 24 August 1998

*refinements improve them to the point that they start to steal customers, they may end up reshaping entire industries: classified ads (Craigslist), long distance calls (Skype), record stores (iTunes), research libraries (Google), local stores (eBay), taxis (Uber) and newspapers (Twitter).*<sup>1</sup>

Artificial Intelligence has been relegated to a research area for decades, but recently has been creeping into mainstream thought and beginning to cause disruptions. Many of the past innovators like Google and Uber are also leading the way in applying AI to improve the services they provide and, in the end, their bottom line. The innovators are further innovating, or disruptors further disrupting, potentially leaving traditional institutions struggling to catch up. AI promises cost savings and smarter ways to serve customers, but only for those who can cope with the disruption. What pearls of wisdom would Drucker offer to modern-day managers to help them adapt?

Peter Drucker had a balanced view when it came to innovations that threatened existing industries. "The technology impacts which the experts predict almost never occur," he wrote in his 1973 classic *Management: Tasks, Responsibilities, Practices*. This can be applied just as readily to AI. It likely will not solve all the challenges of the modern world and neither will it bring an end to humankind as we know it. Jobs functions may change and some jobs may be lost, but like with any innovation, adaptation through education is key. As far back as the industrial automation of the 1950s, Drucker realized that people at all levels will need continuous adult education to keep up with changing technology<sup>2</sup>. This is no different with AI. These systems will need to be designed, programmed, trained, monitored, controlled, tweaked, used, etcetera, all of which will require new skills to be learned to take advantage of this technology. By providing or encouraging this type of training, managers can prepare their employees for this next wave of disruptive innovation. This falls very much in line with Drucker's human centered philosophy for management, that workers are not easily-replaceable commodities but humans and integral parts of an organization. Given the right encouragement, employees will adapt and help the business embrace this AI revolution. Indeed, it must - before competitors do.

## Round 2: Healthcare

Peter Drucker displayed an avid interest in, and frequently used examples from, healthcare. One such clear example is Nurse Bryan. She had never become even a supervisor but always asked if the current treatment for a patient is the best way to help them. "Patients on Nurse Bryan's floor did better and recovered faster. Gradually over the years, the whole hospital had learned to adopt what came to be known as Nurse Bryan's Rule; had learned, in other words, to ask, "Are we really making the best contribution to the purpose of this hospital?"<sup>3</sup>. Another example is from a doctor's perspective. When discussing decision making, Drucker argues that one must act on the most beneficial position and not compromise or hedge bets. He says, "The surgeon who only takes out half the tonsils or half the appendix risks as much infection or shock

1 A.W., "What disruptive innovation means", *The Economist*, 25 January 2015, <<https://www.economist.com/the-economist-explains/2015/01/25/what-disruptive-innovation-means>>)

2 Wartzman, Rick., "Why Businesses Need to Stop Whining, Step Up and Close the 'Skills Gap'", *Forbes*, 5 June 2012, <<https://www.forbes.com/sites/drucker/2012/06/05/why-businesses-need-close-the-skills-gap>>

3 Drucker, Peter F., *The Essential Drucker*, (New York: Harper, 2008) 211

as if he did the whole job. And he has not cured the condition, has indeed made it worse. He either operates or he doesn't. Similarly, the effective decision-maker either acts or he doesn't act. He does not take half-action"<sup>1</sup>. Throughout his various works, Drucker used healthcare professionals as examples of those with high standards.

Such high standards in the medical field exist because we, as providers, understand the importance of taking into account every detail of a patient's system. More importantly, we understand that responsibility is of utmost importance. Part of that responsibility is to be an effective leader in order to advocate for patients' rights and initiate treatments that are determined to be most beneficial. Leadership initiatives are now even part of the performance evaluation process at healthcare institutions. To maintain an effective patient-provider relationship, you have to work hard as well as be dedicated and trustworthy. All of these are characteristics of both effective leaders and also healthcare providers. Considering the rising costs of healthcare, we're expected to be mindful of our resources, both in terms of manpower and services/equipment. These costs have necessitated the innovative use of technology like AI to find new cost savings. Up to this point, the two areas most affected by these changes are radiology and cancer detection.

At the 2018 World Medical Innovation Forum which I attended, a fiery discussion occurred about integrating Artificial Intelligence into the daily medical care of patients. The heat stemmed from concerns about job loss, especially in radiology. For example, much of the image readings can be accurately delegated to AI which can recognize repeating visual patterns and match them to a primary diagnosis. However, this particular discussion concluded with the idea that, while much of the work can be automated, the most complicated presentations would still need to be reviewed by physicians.

Another area of AI research is in cancer. AI has been developed, and is being utilized, for detecting cancer faster and more accurately than pathology specialists typically could. In this case, 80-90% of cancer types can be narrowed down by this new system, but the remaining 10-20% still requires human expertise. The take-home message here is that tumor types can be identified much faster than even 2-5 years ago. Such pace of progress is both exciting and highly disruptive.

Considering the high standards and precision required to identify specific disease conditions of patients, AI is required in order to achieve higher levels of curative and palliative care than humans alone would be able to reach. Based on Drucker's high regard for healthcare's leadership ability, he would arguable agree that the use of AI in the healthcare industry would be beneficial if it furthered the goal of patient well-being. More mundane tasks may be taken over by AI within individual roles, but entire professions would not disappear since human judgment and insight is still needed for the most complex health problems.

### Round 3: Control of Power

A dystopian future taken over by Artificial Intelligence is possible. As with any tool, it can be used for the benefit or detriment of mankind. Unlike simple tools, though, AI operates cars and buses and even impacts the healthcare of patients, so special oversight is needed. There

<sup>1</sup> Drucker, Peter F., *The Essential Drucker*, (New York: Harper, 2008) 258

is a delicate balance here. AI requires large amounts of data, and some level of control, to be effective. At the same time, over-arching control can't be given to something which could cause so much harm to society were something to go wrong.

At the core of AI are algorithms and these come with certain caveats. "All algorithms share two characteristics: They're literal, meaning that they'll do exactly what you ask them to do. And they're black boxes, meaning that they don't explain why they offer particular recommendations."<sup>1</sup> AI can be myopic in its design and focus. Transplanted to a new situation it wasn't designed for, this technology may lead to unexpected and negative results. Similarly, it can be unpredictable in terms of why AI comes to certain conclusions or behaves particular ways. For example, consider when two Facebook AI chat programs, initially trained to converse with humans, were interfaced to chat with each other. The result was that the AI chat programs started developing their own language amongst themselves, which only they could understand. The project was subsequently shutdown<sup>2</sup>. This shows how risky AI can be.

What would Drucker say about the risks associated with AI? First, risk is necessary. In *Management: Tasks, Responsibilities, Practices* he wrote "Risk is of the essence, and risk-making and risk-taking constitute the basic function of enterprise."<sup>3</sup> Therefore the risks associated with Artificial Intelligence are a natural characteristic and should be calmly and carefully managed, not dismissed outright. Second, risk is necessary for progress. In the same book he said, "The main goal of a management science must be to enable business to take the right risk. Indeed, it must be to enable business to take greater risks."<sup>3</sup> Therefore, if AI proves to be an advancement to the progress of business and humanity as a whole, it's a risk worth taking. Finally, AI is necessarily doing work and that needs to be controlled in order to obtain the highest quality outcome. In an earlier chapter in this seminal work, Drucker posits: "WORK IS A PROCESS, and any process needs to be controlled. To make work productive, therefore, requires building the appropriate controls into the process of work."<sup>3</sup> AI does need appropriate control and monitoring to make sure it is doing its job effectively and efficiently, so that if there are deviations, appropriate corrective action can be taken.

## Fight Over, Who Wins?

Despite the conflict, the best future for humans and AI is the combination and cooperation of both. "Companies see the biggest performance gains when humans and smart machines collaborate. People are needed to train machines, explain their outputs, and ensure their responsible use. AI, in turn, can enhance humans' cognitive skills and creativity, free workers from low-level tasks, and extend their physical capabilities."<sup>4</sup> Who could imagine a world

1 Luca, Michael, Kleinberg, Jon, and Mullainathan, Sendhil, "Algorithms Need Managers, Too", Harvard Business Review, January-February 2016, <<https://hbr.org/2016/01/algorithms-need-managers-too>>

2 Bradley, Tony, "Facebook AI Creates Its Own Language In Creepy Preview Of Our Potential Future", Forbes, 31 July 2017, <<https://www.forbes.com/sites/tonybradley/2017/07/31/facebook-ai-creates-its-own-language-in-creepy-preview-of-our-potential-future>>

3 Drucker, Peter F., *Management: Tasks, Responsibilities, Practices*, (New York: Truman Talley Books, 1986) 350, 351, 155

4 Wilson, James H., and Daugherty, Paul R., "Collaborative Intelligence: Humans and AI Are Joining Forces", Harvard Business Review, July-August 2016, <<https://hbr.org/2018/07/collaborative-intelligence-humans-and-ai-are-joining-forces>>

without the quick reference and world-at-your-fingertips capability of the Internet? What would most people in the developed world do without their smartphones? Where would we be if work involved going back to the menial tasks we had to perform just a few decades ago, before computerized systems became prominent in modern society? Why would the advent of the next leap forward in technology be any less promising in terms of time savings, economic and technologic progress, and improving humanity?

The disruptive innovation of AI should not be ignored but embraced, with humans educating themselves to fill the new roles that this latest information technology revolution provides and requires. Several sectors of the economy are benefitting and will continue to reap the rewards of AI adoption, especially the healthcare industry. Roles or scopes of work may change, but expert knowledge workers will still be required. Yes, AI brings with it unique risks, but with the massive potential for advancing humanity, those risks are worth exploring and mitigating as needed. With the appropriate controls in place to ensure worth-while results, both economically and safety-wise, AI can be whole-heartedly embraced.

Peter Drucker's human-centered approach to management is needed more than ever. Rather than being outdated in the age of Artificial Intelligence, his level-headed, inspirational, compassionate, and business-advancing philosophy should form the foundation of this and future societal revolutions. Managers would do well to step back from the hype and calmly analyze the promise of AI, as Drucker would. There's no need for a conflict of apocalyptic proportions between humans and AI, just a deep introspection of how each person fits into this new era and can adapt to the change.