

Chapter 5

AI in Industry

ABSTRACT

The past two years have seen a tremendous number of changes in the global AI landscape. There has been a stable balance with the US as the unquestioned leader in the global IT market for nearly the past 20 years and by extension the international AI industry as well, which has evolved from the data science and big data analysis sector to become the engine of the 4th industrial revolution, global economic growth, and social progress that it is today. However, when it comes to AI spending, the US is outgunned by China whose government is investing \$150 billion to support its goal to become the undisputed global leader in the AI race by 2030. This chapter will offer a broad overview of the UK AI industry and share insights on its present state, near-future, and what can be done in order to optimise the industry's trajectory over the course of the next several years and to maximise the UK's potential to become a global AI leader by 2020. It is not intended to be an exhaustive study and instead demonstrates the forces at work and possible areas for future research.

“What is vital is to make anything about AI explainable, fair, secure and with lineage, meaning that anyone could see very simply see how any application of AI developed and why.” –Ginni Rometty, CEO of IBM

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BACKGROUND

In our world of technology, the mantra ‘innovate or die’ is more true for organisations than ever, and artificial intelligence (AI) has redefined industries by providing greater personalisation to users, automating processes and disrupting how we work. As with the adoption of cloud computing years ago, the adoption of AI and its speed of deployment varies according to industry. In this chapter, we look at a selection of industries, specifically in the UK, where disruption by AI has already been felt.

As noted in a 2018 Brookings Institution report, ‘AI is a technology that is transforming every walk of life. It is a wide-ranging tool that enables people to rethink how we integrate information, analyse data and use the resulting insights to improve decision making’ (West, 2019). AI adoption is increasing in nearly all industries, but capabilities vary. To implement AI, organisations must first understand where it can genuinely add value. Even this first step is challenging.

Technological change is never an isolated phenomenon. Its revolution takes place inside a complex ecosystem comprising businesses, governments and societies. To make a country or society fit for this type of innovation-driven competition, the entire ecosystem has to be considered. Automation has driven disruption in the workforce since the Luddite movement against mechanised textile mills in the early 19th century. Although AI is certainly improving and extending the capabilities of such automation, much of its focus is on individual tasks, rather than roles. Still, most of the current AI impetus in the US currently comes from the private sector. America has many of the most innovative technology firms in the world and its talent pool is quite strong. However, when it comes to AI spending, the US has been outgunned by China, whose government has investing USD 150B to support its goal of becoming the undisputed global leader in AI by 2030 (West, 2019).

Over the past two years, several countries have developed national AI strategies, as outlined in Figure 1. In 2017, Canada, Japan, Singapore, China, the UAE and Finland all published national AI strategies. Subsequently, in 2018, Denmark, France, UK, EU, South Korea and India followed suit.

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