



Don't smash the looms: five reasons why artificial intelligence is nothing to fear

By Cliff Moyce, Global Head of Finance Practice, DataArt
Information Technology
Published: 7 November 2017

Predictions have been rife this year about the threat to jobs from Artificial Intelligence. We are warned that AI will learn how to do our jobs, thus rendering us superfluous. Should we be worried, or do fears about AI demonstrate a failure to learn from history?

The history of technological impacts shows us that fears of jobs losses from the automation of weaving in the 18th and 19th century were unfounded. The Luddites famously smashed automated looms to protest that their craft-based skills were being made redundant and that unemployment and hardship would result. In reality, automated weaving was a mainstay of the industrial revolution, generating hundreds of thousands of jobs directly and indirectly in England alone. These jobs included everything done in the spinning mills themselves, plus production, distribution and transportation of raw materials and finished products; storage, retail and wholesale sales, and even the establishment of the Cotton Exchange in Manchester to allow people in the value chain to hedge against future prices. Understandable though it was, so incorrect was Luddite thinking that economists coined the phrase 'Luddite Fallacy'.

The Luddites believed that technological advancement generates inevitable structural unemployment and is consequently injurious to the macro-economy. In contrast, it is argued that if a technological innovation results in a reduction of necessary labour inputs in a given sector, then the industry-wide cost of production falls. This, in turn, lowers the competitive price and increases the equilibrium supply point which, theoretically, will require an increase in aggregate labour inputs (Jerome, 1934).

By now, we 21st century people should be confident that any new technology will *not* create mass unemployment and that, in fact, we should be confident that new technologies and technological paradigms will create jobs and boost economies.

Five reasons we shouldn't fear AI:

1. AI does not do the work that people *do*; it does the work that people *cannot do*

One mistake that people make when debating AI is to assume that it does work currently being done by humans. By and large, it does not. Instead, it does work that people cannot do at all, or cannot do easily, or cannot do sufficiently well in a reasonable timescale. Or it does work that is being done by machines already, but it does it much better than existing machines.

Previously, people have used digital calculators, spreadsheets and computer modeling techniques to do many of the things that they could now (or in the future) use AI to do faster and better. Those same people can now use AI techniques such as pattern recognition to meta-analyse Big Data from an infinite number of sources. An example of one machine driven process being replaced by a better (AI) machine is robo-advisory investment management services for retail customers.

Current algorithm driven methods via online services have a reputation for being clunky and simplistic. AI transforms this service with a level of sophistication that exceeds enormously what algorithms can do. Result: no human replaced, but many happy humans as result. AI is an additive technology that opens up a whole new world of possibility to government, science, medicine, technology, logistics, education, and commerce. Through AI techniques of natural language processing, machine learning, deep learning, and cognitive computing, people and organisations can better automate processes, gain non-intuitive insights into data, and manufacture 'better things better'. Non-intuitive insights from data can generate and validate new economic, business and investment strategies. In capital and commodity markets, the more efficient use of capital afforded by using AI tools can provide huge stimuli to economies through increased capital for investment.

2. AI does not destroy jobs; it creates a huge number of jobs

Rather than causing unemployment, factories created millions of jobs in the 18th and 19th centuries. At DataArt's recent annual fintech event, business futurist Rohit Talwar argued that AI "unleashes human potential" to do more, bigger, faster and better. That is the point - AI allows us the ability to do the things we always wanted to do, plus a load more things we haven't yet considered. That is how jobs are created. Already, AI has created many more jobs than it has ever replaced. Constellation Research predicts that the market for AI will be worth \$40 billion by 2015 and \$100 billion by 2020. Many of the jobs being created by AI are jobs that never existed before.

3. AI creates jobs not just in its own development, but in every industry that uses it

As well as 'pure AI' roles there are many more jobs available in industries that are using AI to do new things, or do old things better - and in the process creating increased demand and increased job numbers. One example is cyber-security. Cyber security uses a wide range of AI approaches and techniques, including machine learning, pattern recognition, and fuzzy logic to keep our data, identities and money safe. And yet there is a huge skill gap such that firms struggle to fill open positions. The ISACA (a non-profit information security advocacy group), predicts there will be a global shortage of two million

cyber security professionals by 2019. In financial services and capital markets, AI is the science behind anti-money laundering processes and technologies as well as many other forms of risk management, including 'Regtech', the AI based technology used to assure regulatory compliance by making sense of multiple – often conflicting or incomplete – data sources.

4. AI will not kill us. AI will save us

Rather than worrying about something that will never happen (autonomous robots wiping us from the face of the earth) we should focus on how many lives are being saved right now by the use of AI in medicine and surgery. Or think about how many hungry mouths are being fed more cheaply by improved agriculture coming from AI techniques and technologies; or how AI is protecting your online identity and the data in our banks. Rohit Talwar called this positive focus on benefits as Star Trek versus Star Wars thinking.

5. We will never be *ready*

Were we ready for the internet – part of the third industrial revolution – and everything (good and bad) that it brought us? Of course not, because we couldn't anticipate what new business models would be facilitated by such a technology, having never seen its like.

The irony of change management in many organisations is that it is the one thing designed to ensure that real change never happens, because real change cannot be 'managed'. Real change is almost always a reaction to significant change in the environment – including opportunities and threats created by new business models enabled by new technologies. Who among us can really predict everything that a large number of new technologies arriving at once could generate?

Technologies such as nanotechnology; atomically precise engineering; conscious technology; hyper-connected (and thus arguably conscious) internet of humanity; mixed reality living; synthetic biology; human augmentation; brain uploading; internet of everything; and, AI, to name but a few. None of us can come close to fully understanding all the new business models and opportunities that will be created by these technologies, but we can be sure of one thing: they will create huge numbers of jobs and businesses world-wide. We should be grateful for that. Please don't smash the looms – but more importantly, please don't be scared of them.

Original article can be found

here: <http://www.thecsuite.co.uk/cfo/information-technology-cfo/dont-smash-the-looms-five-reasons-why-artificial-intelligence-is-nothing-to-fear/>