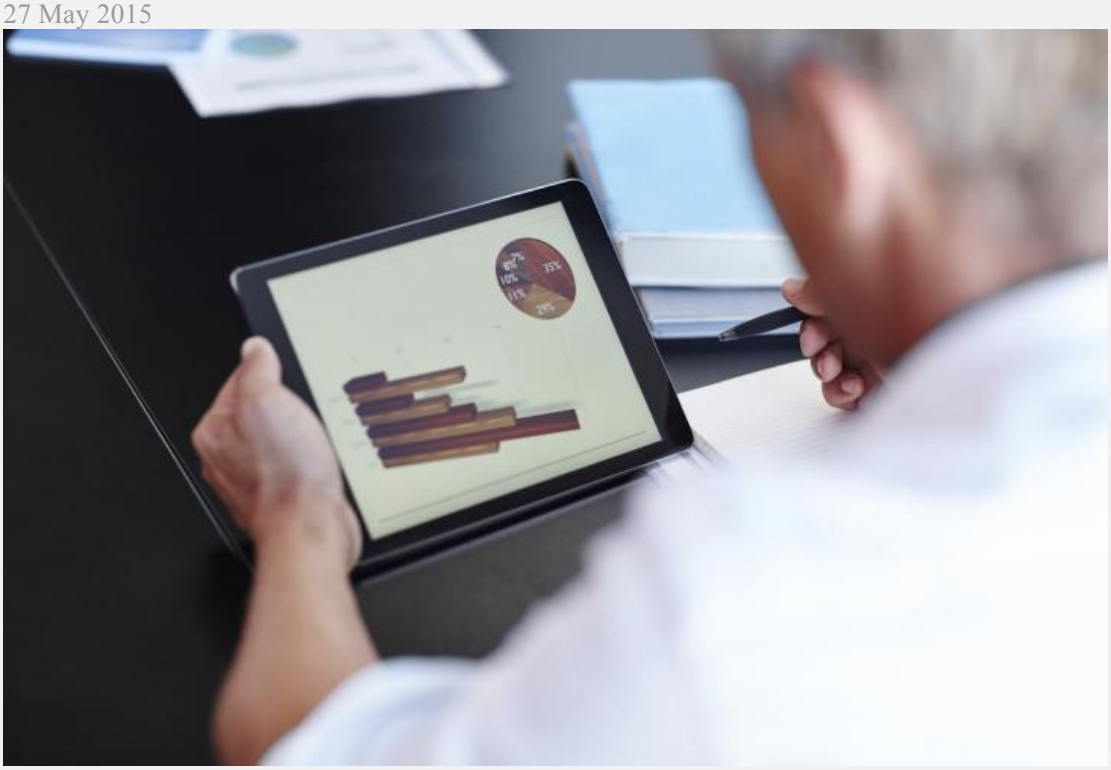
5-2015

Education and the future of jobs

Singapore Management University

Education and the future of jobs

Published:
27 May 2015



Making sense of the mountains of digital data is important, but the willingness to continually learn new skills is critical

In a new book titled "*Rise of the Robots: Technology and the Threat of a Jobless Future*", its author, Silicon Valley entrepreneur computer engineer Martin Ford argues that technological advances will soon produce robots so efficient that human labour will effectively be eliminated. Jobs that require skills that are supposedly beyond that of robots – journalism, computer programming, and even medicine – could soon be done by robots, Ford warns.

Ford's sentiments are not new. When machines replaced humans in textile mills in the First Industrial Revolution, followed by the Second Industrial Revolution when Henry Ford mastered the science of the moving assembly line and mass production, there were fears that machines would put humans out of work permanently. Instead of becoming redundant, humans just adapted and created new jobs.

However, technology could significantly change the way certain jobs are perceived.

"In the medical care sector, it is the medical doctor's role that can be automated, not the nurse's," says Singapore Management University President **Arnoud De Meyer**. "The diagnosis in future could be done by a machine. This changes the power dynamics that exist today between the medical doctor and the nurse."

Robots to replace humans?

De Meyer made those comments in the panel discussion, "*Jobs of the future: 21st century skills for the millennial generation*" for Singapore-based station Channel NewsAsia's Perspectives programme. His view was shared by fellow panellists.

"Robots and computers have access to a larger stream of information than humans can ever accumulate, so they can answer factual answers better than humans ever can," explains **Ehsan Mesbahi**, Dean and CEO, Newcastle University International Singapore. "What computers cannot do is reproduce emotions. You can ask a computer to touch, but you cannot ask it to feel. You can ask it to talk, but it cannot communicate."

However, does that mean humans will only have service jobs where the human touch is essential, such as nursing or customer service? **Jairo Fernandez**, vice president of human resources at SAP Asia Pacific Japan, points out the need to manage the mountains of data generated by devices connected to the internet – the Internet of Things. According to research firm Gartner, there will be 26 billion devices on the Internet of Things by 2020, and the demand for data managers will grow along with the number of connected machines.

That begs the question: what about the traditional jobs such as engineers, lawyers, or accountants? Surely someone looking to build a house would still need to hire an engineer instead of a data manager, right?

"Yes you'll need basic skillsets but what's 'basic' for any profession now may not be the same 20 years from now," says Fernandez. "Skills like digital sense-making are something that is crucial for the future. That's when education institutions need to collaborate with the private sector for these jobs."

Education: For what purpose?

The relationship between universities and industry is not a new one, with U.S. universities collaborating with industry to conduct Research and Development (R&D) as early as the late nineteenth century. But as job descriptions change at an ever-increasing pace, university graduates find themselves in jobs that utilise little of what they have learnt in school.

"Education isn't a description for what you want to do for in the future," Mesbahi says. "Education is a way to facilitate your brain to develop all your abilities and intellect, and to bring them out. If you want to do engineering, then you do engineering; it's same for business or any other field."

Adding to that argument, **Finian Tan**, chairman of Vickers Venture Partners highlighted how the non-vocational elements of university education fueled the success of Silicon Valley billionaires. "All these people who created the big success stories lately such as Facebook, Twitter, and Uber etc. – did the ideas for them come from their training in university? No. A lot of it came from a few pals coming together and saying, 'Why isn't there this or that? If it isn't there, let's create it.' And then they take it from there.

"The thing is: they've been trained to be critical, they know how to execute well, and they take risks."

Concluding the panel discussion, De Meyer listed three contributing factors to success in the brave new hyper-connected world.

"First, follow your passion. If you are passionate about something, you will probably be good at it. Two, the learning doesn't stop the day you graduate from university – it actually starts when you

graduate. It’s about reskilling and upskilling. And third: you have to learn how to learn. That is the most important thing.”