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WILL YOUR SKILLS FIT WITH TOMORROW'S TECH EMPLOYMENT DEMANDS?

By Gary Beach
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I am a big fan of MIT professor Erik Brynjolfsson. And two books he co-authored with MIT colleague Andrew McAfee, *The Race Against the Machine* (2011) and *The Second Machine Age* (2014), are particularly relevant to the discussion of tech employment trends.

Describing the books, Mr. Brynjolfsson says, "computers and other digital advances are doing for mental power what the steam engine and its descendants did for muscle power. Digital technologies change rapidly, but organizations and skills aren't keeping pace. As a result, millions of people are being left behind."

Provocative stuff. But for this column it serves merely as a content hors d'oeuvres. The main course is served up by Peter Sondergaard, Gartner Inc.'s Senior Vice President of Research, who recently handicapped the race between humans and machines with this bold prediction: "30 percent of all knowledge worker jobs will be converted to software, robots and smart machines by 2025."

Around 155 million people work in America, of which 43 million are knowledge workers, a term introduced into business lexicon by Peter Drucker in 1959. If Mr. Sondergaard's prediction is accurate, 13 million knowledge workers could be unemployed within a decade.

Unless they learn new skills.

Mr. Brynjolfsson believes that claim might be too conservative. "My take," he says, "is that technology has always been creating and destroying jobs, so I wouldn't be surprised if one-third, or more, jobs were eliminated by new technologies in the next decade." He adds, "millions of new jobs, however, will be created and we can't even think of the titles for many of these new occupations since they are yet to be invented."

That laissez faire approach to future job creation strategies worries Eric Hanushek, senior fellow at Stanford University's Hoover Institution. "The United States has been very bad at mounting formal job training programs for workers regardless of why they may be unemployed," he says. "America is still too complacent about future employment demands and our past successes blind us to the potential future changes."

How complacent has America been? For the first decade of the 21st century, U.S. job growth actually shrank 1.1%. If that trend continues, and millions of displaced knowledge workers cannot find employment in those "yet to be invented jobs," the unemployment rate in the United States could swell from the current 5.8% to 14.1%.

Guy Hadari, global CIO for Teva Pharmaceutical, says Mr. Sondergaard's prediction is "much too aggressive." He believes, "while the composition of IT jobs will certainly change – less developers, less support and service and more business analysts – 30% of IT jobs will not be impacted." He adds, "future technology evolution is all about three 'I's': instrumentation,

interconnectivity and intelligence. The hardest part, by far, for machines to replace is human intelligence.”

Todd Thibodeaux, chief executive officer of CompTIA, a technology trade association, also has issues with the pace of Mr. Sondergaard’s claim. “Nothing happens that fast,” he says, “not at least over the next 10 years.” In his view, “machines will enhance human work, rather than replace jobs.”

Gajen Kandiah, Executive Vice President for Business Process Services at Cognizant Technology Solutions, shares Mr. Thibodeaux’s view. “The future is not about man versus machine,” he says, “but about man adapting new ways to work with machines.”

IT professionals should take a deep breath before reading the next sentence.

Mr. Sondergaard believes job conversion within the IT department could happen faster. “By 2025” he says, “IT staffs will be a quarter of their current size as IT infrastructure and legacy application jobs shift to the cloud and other as-a-service models”.

The 2014 Future of the Internet report from Elon University and Pew Research adds a worrisome twist to the discussion. It asked 1,896 experts if “networked, automated, artificial intelligence applications and robotic devices displace more jobs than they create?” Forty-eight percent of respondents said technology will displace more jobs than created, while 52% said technology will create more jobs than displaced.

Those results underscore an observation made by Mr. Thibodeaux, “no one really knows what will occur.”

And they portend a future where debates about new job creation strategies, rather than implementation of massive job training programs, will be the order of the day.

For the next decade.

To remain relevant, and employed, in this uncertain future, Mr. Brynjolfsson advises IT workers to “sharpen your tech skills.” He adds, “it is unclear where humans are going to fit it. Are they going to be compliments to, or substitutes for, this new technology?”

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