

Why digital healthcare is a balancing act

David Suarez, Partner and People & Organization Leader talks to Forbes Middle East about AI and Robotics and the considerations for healthcare workforce.



Job creation in the Middle East remains paramount as a lever to enable prosperity and sustainability in the region. However, advances in automation, technology and specifically robotics and AI, continue to have a significant impact on jobs and on the workforce. How much will be replacement of humans vs. augmentation of skills? Do we need to consider Hollywood-like dystopian scenarios like Matrix or Terminator, which 20 years ago were pure science fiction, but today may start to feel within the realm of science fact?

The truth is, the threat of jobs being replaced by new technology has always been there. From the invention of the printing press in the 1450's doing away with the jobs of thousands of copyists across Europe and Asia, to the arrival of the IBM7090 mainframe in the early 1960's into the NASA Mercury missions, doing away with human computers virtually overnight, technology replacing humans is a basic fact of life.

So if this has been happening for centuries, why is the current revolution any different? Well, fundamentally for three reasons:

1. Cycle time for **new technology adoption** getting smaller and smaller, having decreased at least 20x fold in the last 500 years.
2. **Machines** are also **getting better** at non-repeatable, highly complex tasks such as autonomous driving, medical diagnosis or article writing. First time ever that this happens.
3. Technology-led **productivity improvement** has always been followed by

new employment. At least until the dawn of the 21st century, when productivity growth has remained robust but employment has stalled, as some studies suggest.

The most common thought on the increased use of digitisation and AI in the workplace is the **threat of job replacement**. According to a recent PwC study, 38% jobs in United States are at risk of being automated. 37% of people are worried about automation putting jobs at risk.

However, even if the threat of job replacement is real and significant, we believe that the upside from **job skills augmentation** outweighs the downside of job replacement, provided that the speed at which humans can learn new skills and augment old ones significantly increases. Should we be bullish or bearish in this context? Bullish appears to be the answer, at least according to PwC's, last Future of Work survey, where 37% of respondents were excited about the future compared to only 18% who were worried.

Impact on the Healthcare Industry

In the healthcare industry, AI and Robotics will impact jobs across the sector, from MDs, to nursing staff, to allied health professionals and support staff.

The biggest **impact from AI on MD's** will likely be medical **diagnosis**. Today, AI tools have already shown better accuracy at diagnosis than MD's. For instance, IBM Watson's lung cancer diagnosis success rate is 90%, compared to 50% for MD's. While this will require human doctors to liaise with and trust AI as part of the diagnosis process, AI will also allow doctors to focus on non-routine tasks and treatment options, relying on highly accurate diagnosis completed by a robot. MD's workload per patient will therefore be reduced which will help shorten waiting times for an appointment. Medical research completed by MDs will also be supported by AI which can scan thousands of documents and identify trends for further analysis.

For **nurses and allied health professionals**, many routine tasks will be replaced by robots. Examples of this already happening are robots which can draw blood or move patients around. The 'RoBear' for instance, developed by the RIKEN-SRK Collaboration Center for Human-Interactive Robot Research and Sumitomo Riko Company, can lift and move patients from their bed to chairs or wheelchairs AI will reduce pressure on supply of allied health professionals, and enable them to cope with an aging population.

The focus for human employees will shift towards **care giving** roles and away from repetitive tasks.

The above is in line with a recent PwC survey of healthcare professionals in the GCC, which revealed that several medical specialities were at risk of being significantly replaced by robots over the next 10-20 years. At the top of the list were anaesthesiology and surgery. At the bottom, paediatrics, obstetrics & gynaecology.

Immediate Priorities

Healthcare sector employees should focus their energies on jobs that require truly human qualities (e.g. care delivery, therapy) which are difficult to be replaced (at least for now) by a robot. In addition, they should seek to develop skills that optimize the human/machine interface, so their chances to either program algorithms or work well alongside robots and AI applications (e.g. in surgery).

Healthcare sector employers should re-think their value chains and learn from "Digital Natives", i.e. companies that are born with innate AI and RPA elements into their product and service delivery models. They should also put in place programs to upskill their workforce in those areas that show greatest potential for job augmentation.

Looking out into the Future: Blurring Lines

Our latest Workforce of the Future report showed that, while 73% of people surveyed by PwC think that technology can never replace the human mind, 70% would consider using treatments to enhance their brain or body to improve employment prospects in the future- demonstrating a blurring of the lines between human and robot. One could argue this is only a logical extension of what we already do: today we use glasses or contact lenses, hearing aids, smart prosthetic limbs, exoskeletons and increasingly more advanced technology to enhance our senses and capabilities. It is not too far-fetched to say humans in the future will become increasingly more cyborg-like. The future, in the healthcare industry and also elsewhere, is not likely to a binary us-vs-them world similar to the dystopias suggested at the opening of this article. It is far more likely to be a gradual spectrum of enhanced humans working alongside intelligent robots.

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