People and robotics – the hybrid workforce

As organisations embrace the Fourth Industrial Revolution, where people manage machines and machines are managing people, they need to rethink roles, responsibilities and the psychology of their teams to ensure success.

A mixed workforce comprising people and robotics is not a science fiction movie, but an evolving reality. Jon Stone, Partner, Solution 49x, KPMG, says organisations must recognise that the term ‘workforce’ no longer simply refers to human resources, but cognitive systems, machines and robots too.

“The traditional construct of a workforce is being blown away,” he says. “In terms of a supply and demand problem, the resources you need to meet demand from a business is not just about your ‘human’ resources. Your workforce could be people based, machine based, or increasingly, a hybrid of the two.”

As technology advances to make robotic automation, Artificial Intelligence (AI) and cognitive capabilities increasingly accessible, the way people work, their roles and responsibilities, are changing. Leadership need to consider the optimal hybrid workforce for their strategy, how management and Key Performance Indicators (KPIs) are structured, how it changes their risk profile, and the impact on the psychology of people (and their customers).

“The people side is normally a HR issue, and the machine side is typically in the technology space – but when you are bringing those two things together, and planning how you are going to deal with that, it becomes a CEO issue,” he says.

**A hybrid workforce in action**

What does a human and robotic workforce look like? A common perception is that robotics are in the form of ‘R2D2-like’ machines that roam around an office. Stone says in reality, they are likely to be artificial intelligence software, cognitive computing, or digital agents (virtual assistants) such as Amazon’s ‘Alexa’.

“Virtual assistants are being used to support employees with questions about product details or services. Some organisations are turning the manual step of looking up information in a pdf into a conversational interface through a virtual assistant,” he says.

Some aspects of robotics are obvious – computers that answer telephone queries, self-serve supermarket checkouts, or online application processes with chat bot support. Stone describes the goal of creating frictionless interactions, where humans don’t need to be involved. For example, a computer could automatically purchase products based on previous sales figures or its anticipation of consumer trends.

Stone says it is better to think of AI not as ‘Artificial Intelligence’ but more as ‘Augmented Intelligence’.

“It is people plus machines, not people versus machines. If you embrace it and realise that machines are helping you, you can achieve more output from staff and productivity,” Stone says.

**Roles and responsibility must shift**

As technology keeps improving, a ‘collegiate’ relationship between humans and robotics will need to grow. It could be that humans are managing machines and some machines are managing humans, together offering a seamless approach to interacting with customers.

“Do people hire machines or do the machines hire people? There are already examples such as smart scheduling systems or network route planning where the decisions on where to deploy the ‘human’ resources, i.e. field service engineers, each day are made by machines,” Stone says.
This environment raises practical questions concerning roles and responsibilities. For example, if customer calls are answered by a machine, then referred to a human, then back to a machine, who is responsible for the outcome?

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“Who or what is responsible for the Net Promoter Score, or KPI’s?” she says.

Hybrid workforces also expose organisations to a change in its risk profile.

“If a chatbot goes rogue, (for example by offending customers or mis-selling), how do you deal with the reputational risk? Who is responsible if an employee goes rogue?” Stone says.

A psychology shift
As robotics advance, leadership must monitor the impact on the psychology of their people. Staff could see robotics as a threat rather than a support.

“If the computer is telling you to ‘buy this’, people may still defer the decision to a staff member, even though the machine has more information to make the decision than we could possibly access,” he says.

In this situation, ‘shadow roles’ could help people embrace the useful aspects of technology, and know when to favour human experience.

“In retail, you could have merchandise buyers working alongside ‘machine buyers’, and track the performance in parallel for learning and improvement,” he says.

Barry says helping staff embrace the useful aspects of technology should “free teams up to move into new spaces that are much more rewarding and fulfilling”.

Leap or be left behind
Managing a hybrid workforce has its challenges, but organisations that fail to take the leap could become irrelevant. In addition to robotics ‘augmenting’ peoples’ skills, they can help organisations monitor and respond to risks and threats, price alterations, interest rate fluctuations, and new trends or customer expectations.

“It is now about scale and speed – competitive advantage will be achieved through the ability to respond, interpret and make the decisions faster than competitors. In marketing, you need automation to run thousands of unique campaigns a month because of the personalisation. Humans can’t do that,” Stone says.

Barry summarises that a successfully strategised hybrid workforce can help organisations to stay relevant as they have “eyes and ears everywhere”.

“Your organisation is ‘on, on, on,’” she says.

### Buzzwords of a robotic world

| **Fourth Industrial Revolution:** The transformation in the way that humans and machines connect and relate. | **Machine learning:** A key element of AI and the basis on which all large Internet companies are built. Rigorously honed algorithms rank responses to a search query, give suggestions, and select the most relevant content for a given user. |
| **Robotic process automation (RPA):** The use of technology and “bots” to automate work traditionally done by humans. | **Deep learning:** This is modelled on the human brain but is infinitely more complex. Unlike machine learning, deep learning can teach machines to ignore all but the important characteristics of a sound or image. |
| **Software bots:** Robots that perform pre-programmed tasks and ‘learn’ how to get better at performing more intricate and varied tasks. For example, IBM’s Watson can understand and interact with humans. | **Cognitive process automation:** This is enabled by the convergence of RPA, machine learning, cognitive platforms and advanced analytics. |
| **Artificial Intelligence (AI):** This is the ability of machines to execute tasks and solve problems in ways normally attributed to humans. However, AI machines are limited by the manual nature of their programming; they can’t do—or learn to do—anything else. | **Cognitive augmentation:** This mimics human activities such as perceiving, inferring, gathering evidence, hypothesising and reasoning. |
7 steps to a workforce of the future

1. **Build a vision and validate:** Think about, what will the organisation become and what is the role of its people? What is the strategy, what roles will be impacted, how do you integrate human and digital labour?

2. **Design the future workforce:** What is the current profile? How should human and digital integrate, what processes will be human or digital, what up-skilling is needed?

3. **Form a detailed design blueprint:** Consider the optimal integration of human and digital labour, with the customer experience at the core.

4. **Strategic workforce planning:** Think about the scope, demand and support to deliver.

5. **Talent strategy:** How will you win talent, measure risk, enable your team and keep ahead of the competition?

6. **Design the business change and transformation journey:** Commute it clearly, make it real and bring it to life.

7. **Measuring the benefits and making improvements:** Continual evaluation, self-disruption and maintain relevance.

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