A NEW COLLABORATION FOR CONTINUOUS IMPROVEMENT

Knowledge workers partnering with robots for success

BY GLENN MARSHALL

Companies are learning to leverage the strengths of their knowledge workers — people who "think for a living" — by applying convergent, divergent, creative thinking skills to make themselves and their robots more productive.

Businesses are increasingly considering the possibility of substituting technology and robots for people. At the same time, people-centric leadership matched with advanced digital technologies is making people more innovative, productive, fulfilled and richer, both in the short- and long-term. Businesses need to look at collaborative partnerships between computers and humans for closing the growing skills gap. By 2020, 65 percent of all jobs in the economy will require postsecondary education and training beyond high school, for technical-vocational schools and colleges. The U.S. will fall short by 5 million workers with postsecondary education — at the current production rate — by 2020.

Knowledge workers

Knowledge workers consistently want to be liberated from routine and dreary tasks to focus on more interesting work by using a new approach known as Robot Process Automation (RPA). This approach applies technology allowing employees in a company to configure computer software or a "robot" to capture and interpret existing applications for processing a transaction, manipulating data, triggering responses and communicating with other digital systems in the Internet of Things (IoT) world.

Since industrial robots have, in some cases, improved the manufacturing industry by creating higher production rates and improved quality, RPA "robots" are revolutionizing the way we think about and administer business processes. Any company that uses labor on a large scale for general knowledge process work, where people are performing high-volume, highly transactional process functions, can boost their capabilities and save money and time using Robotic Process Automation software.

The public may be thinking of shiny robots gliding around office buildings. In reality, this is just software that can be made to perform the kinds of administrative tasks that otherwise require stopgap human handling — for example, transferring data from multiple input sources into one central database.

An accelerated learning curve

Technology and innovation is also accelerating workers' capabilities by using Augmented Reality (AR) applications so they can compete on cost, quality and safety with robots in the workplace. Mobile AR technologies can create solutions that include step-by-step instructions using visual overlays of the right information on equipment, machine and complex operations.

AR solutions visually enhance a worker's access to information and knowledge required to perform a job, including steps, cautions, knowledge sharing from expert workers, schematics and any other digitized data. It provides a seamless and timely transfer of knowledge and key points to workers on the job.

Boeing electrical engineer Paul Davies shared the results of an internal study of how trainee groups performed when asked to assemble a mock wing for the aircraft manufacturer. The study's subjects were sorted into three groups and could refer only to the instructions on a PDF displayed on a desktop computer, a PDF displayed on a tablet or animated AR instructions displayed on a tablet.

The AR-tablet group was 30 percent faster and 90 percent more accurate on their first tries than the other groups, Davies said. "If AR continues to prove as effective in continued research, it could be 'huge' for companies with Boeing's scale, both in terms of increased quality and decreased cost," he added.

Workers with limited experience are now capable of learning faster using AR applications to complete every job successfully. These breakthroughs are a key resource for closing the nation's growing skills gap and can help retain and brings jobs back home.

Tomorrow's knowledge workers

In an age where artificial intelligence threatens to upend the careers of even the most well-educated white-collar workers, Peter Drucker didn't preach the importance of lifelong learning for any one type of occupation. He thought everyone must continually be prepared to constantly improve and master new ways to approach their jobs.

"This will be true in all areas of the organization: rank and file, office work, technical and professional work, managerial work," Drucker asserted. "On every level, adult education will be needed." The public sector has its part — to make sure that "schools and employing institutions work together in the advanced education of adults."

In the future, workers will use all forms of new technology, mobile devices and robots to adapt and continuously learn how be more productive and effective in designing processes and building quality products and services at home, by linking education to economic prosperity of individuals and the nation.

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