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The Human Face of Factory Automation

insight

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The Copenhagen Fashion Summit is an annual event that takes a critical look at the apparel industry's sustainability. The 2018 event, held on May 15-16, focused on how the global fashion supply chain just doesn't measure up to many stakeholders' standards. To brands and retailers, it is too slow, too cumbersome, and too opaque to meet the demands of the fast-moving e-commerce economy. To social activists and environmentalists, it is a source of human rights violations, poverty and inequality, and pollution. To manufacturers, it presents a wellspring of pressures: margin pressure, labor pressure, regulatory pressure, and buyer pressure.

Many of these problems could be alleviated by the more effective application of technology, which would deliver faster turnaround times, as well as the visibility, traceability, and flexibility that the industry desires. There is no doubt that the future of manufacturing in emerging markets across China, India, and Southeast Asia is to go digital. The price of technology is dropping, and labor costs are driving factories to seek more efficiencies in production, while global buyers are demanding more connectivity. And only by building an inclusive work culture that values learning can factories engage their workers in digitalization.

Digitalization Without Mass Job Loss?

This is not primarily about robotics: China accounted for 87,000, or nearly a third of global industrial robot purchases in 2016, but only 133 went to the apparel and textile sectors. Rather, it is about using digital technologies such as sensors and radio-frequency identification tagging, together with artificial intelligence, to create smart, connected factories. Even so, the prospect of greater automation is causing policymakers and companies to worry about a future without labor-intensive factories and the millions of jobs they create.

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In Asia, textiles and garment manufacturing supports millions of jobs. In some countries, the sector accounts for as many as half of all manufacturing employment. The question here is: how can Asia avoid social consequences while still encouraging manufacturers to accelerate the adoption of technologies that are critical to their survival?

Lessons from a Factory in Thailand

The Fung Group, in collaboration with a team from the Hong Kong University of Science and Technology, recently conducted field research on how automation affects workers at a consumer products factory in Thailand. This mid-sized factory (600-1000 workers) is progressively digitalizing processes using sensors and Internet of Things (IoT) platforms, in addition to installing automation equipment to drive operational efficiency and quality in its assembly lines. Employees are being trained on the new equipment as it is being installed. Without undergoing any mass layoffs or hiring new people, the factory has been able to produce more at a higher efficiency rate. From a business perspective, this factory's automation process has been a success. To gauge the social results, the factory sent in a team of researchers to interview managers and workers at all levels in one of the major production areas.

Four key insights emerged.

Firstly, an environment that encourages learning is important to support workers to acquire new skills and adapt to increasing digitalization in their workplace. This goes beyond training an employee on the new, technical aspects of their job. It means a constant emphasis on learning in all dimensions in the workplace, and conveying to workers that they are capable of professional development. Of course, a culture that promotes learning will not make a digital native out of a 45-year-old who has spent their life on the assembly line, but it will enable this worker to contribute meaningfully in a digital environment. As digital management consultants John Hagel and John Seely Brown have said, scalable efficiency is no longer enough: the future belongs to companies that can master scalable learning.

Secondly, inclusive digitalization requires a supportive, highly communicative, open corporate culture where employees feel engaged.

This is a culture built up over time. This particular factory benefited from many years of cultivating a family-like environment through social engagement and team-building activities. These investments, formerly “nice to haves,” have paid off in the digitalization process, as employees feel both valuable and valued.

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Thirdly, as workers learn new skills and gain new insights into their work, they become more confident and empowered, and might then expect more transparency in their workplace. When the nature of their work evolves, workers expect corporate culture to evolve alongside it. They may want more transparency around decisions about automation and management practices, as well as more respect. Management must be prepared for this, particularly in Asian factories where the culture is often more hierarchical and top-down.

Finally, the reward for factories that do evolve their culture is that, as workers move beyond purely manual roles, they become sources of ideas and innovations. Many factories, including this one in Thailand, have adopted the model of continuous improvement. With the right structure in place, workers in digitalized factories can be major contributors to this process, provided that there is transparency around how ideas are chosen for implementation. This is true for workers at all skill levels.

Factories Need a Culture Shift

The received wisdom about digitalization is that it could be disempowering and alienating for workers. However, with the right corporate culture and sufficient support for workers to upgrade their skills and assume new roles, factories can engage their workers in the digitalization process, regardless of their starting level of digital literacy. Granted, this is based on just one factory; it might be an anomaly. And at some point there will likely be job losses, but at least until then, workers will be learning relevant skills and gaining the confidence they need to navigate the digital economy.

The good news is that there are simple things that emerging Asian manufacturers can do today to prepare for and engage in responsible automation. The bad news is that almost all of the core traits needed to support inclusive digitalization seem to run counter to the culture commonly found in labor-intensive factories today, given a legacy of cheap labor that treats workers as objects. Some factories are already learning the business benefits of moving away from this legacy, through educating and respecting their workers. They need to continue the journey by fully engaging their workers as sources of knowledge and innovation.

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