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The gig economy has existed for a while in the creative industry, but technology has enabled its replication in other sectors, producing players like Deliveroo.
PHOTO: AFP

A practical approach to Industry 4.0

The nature of work and hiring are changing. If companies do not change their game, they will lose out in the intensifying race to attract and keep talent. BY FAIZAL BIN YAHYA AND SHAZLY ZAIN

WITH recent news of retrenchments and economic uncertainty especially for PMETs (professionals, managers, executives and technicians), a key concern for most people is remaining employable in an uncertain time. With this in mind, the Institute of Policy Studies (IPS) conducted a series of discussions during a recent seminar on Human Capital Development in Industry 4.0.

The seminar brought together business owners, educational institutions, futurists and policy-makers to define the ambiguous Industry 4.0 term and to discuss how businesses, workers and policy-makers can adapt to the changing times. While a broad range of topics were discussed, several key ideas were iterated throughout the entire seminar.

MORE THAN JUST TECHNOLOGY

A key misconception of Industry 4.0 is that it is solely about advanced technologies such as artificial intelligence, Internet of Things (IoT) and data analytics. Often, the conversation surrounding Industry 4.0 is one of the fear-inducing robotising processes and other labour-displacing technologies.

However, companies could use these opportunities for job redesign, in line with their companies' strategic objectives. For example, in Industry 4.0 "smart factories", job scopes on the production line all start with the need to analyse data and trends of customers' demand and managing automation, but thereafter they diverge.

Technicians and operators will directly interact with machines, engineers will look into IoT infrastructure and design, big-data management, simulation, modelling and machine learning, while plant managers will supervise the IoT infrastructure, industrial cyber security management, agile development, operations and design thinking.

Given the "smart factory" example, focusing largely on technology is problematic because employers and their human resource (HR) personnel may end up misidentifying the skill sets necessary for the businesses to operate in an Industry 4.0 paradigm.

Not all job roles in Industry 4.0 need programming experts, but they would need skill sets that enable the analysis of data and trends. Leadership is critical and it can be seen that plant managers require skill sets such as ideation, problem solving, creative thinking and communication. This is in order to supervise the operators and technicians as well as the engineers from an overall perspective to meet evolving customer demands.

Diversity of skill sets within a job designation is also needed. For example, the job scope of an engineer might diverge from engineers who are IT specialists and engineers who are domain specialists. Skilled engineering IT specialists are able to develop technically sound products and solutions, but may run the risk of omitting the human element that connects businesses to their customer base, and this is where engineers who are domain specialists can help.

A classic example is the development of Apple products. In addition to technical and programming expertise, Apple also incorporated experts in calligraphy and visual design in its product development cycle. It was through the integration of both technical and non-technical, human-centric expertise that enable Apple's products to become iconic today.

THE GIG ECONOMY

Industry 4.0 also heralds the rise of new business models and ecosystems. The gig economy is one such example. It has existed in older, creative industries such as design and photography. However, technology has allowed the ecosystem of the gig economy to be recreated in other sectors, producing players like Grab, Gojek or Deliveroo.

Businesses should become more comfortable with "gig-tising" some of their operations to combat rising business and labour costs since some of these jobs do not require a worker to be present for the entire day.

TRANSFORMING WORK

The gig economy might also solve another problem businesses face – retaining workers. The gig economy is popular among workers, especially younger Singaporeans as it affords them flexibility and ability to be involved in creative work. Since the work is mostly project-oriented, workers have better control over their time, and this is more appealing to the younger generation.

Stakeholders in the seminar are adapting to this need. For example, Singapore Polytechnic (SP) has introduced the AGILE programme in some courses, where students work on real industry projects as part of their diploma programme.

In contrast to the traditional academic programme, the AGILE programme lets them work on a gig basis as part of the curriculum to gain recognition for their work and valuable industry knowledge – even before they receive their diplomas. It is unsurprising that the programme is popular among SP students. Therefore, the new normal for the future of work might not be the "9 to 5" full-time employment but full-time freelancing or "gig-stering".

ARCHITECTURAL HR

Companies must do more to integrate their various departments, especially the HR management, to understand and participate in the overall architectural evolution of the company's business model. This includes the need to understand the skills sets needed for roles such as marketing, sales, customer service, product development, technology – innovation and line operation and all have to be integrated towards a seamless flow of output. This understanding is key to the retention of human capital after considerable investments in reskilling. However, all these efforts will come to nothing if companies are unable to recruit the right human capital in the first place.

The competition for talent will only increase and recruitment efforts have evolved towards the creation of specialised websites that have posted complex puzzles to be solved in order to attract the job candidates that fit the company's needs. These websites need to be linked to specific and popular social websites to reach out to the appropriate network of skill sets. These efforts should complement rather than displace traditional recruitment links to schools and institutes of higher learning.

Despite the disruption or evolution of businesses, Singapore is in an advantageous situation moving into an Industry 4.0 paradigm. Asean is a hotbed for startups, new-age industries and the gig economy, to which Singapore can provide opportunities for newly-minted innovative industries to succeed.

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