COMMENTARY

Commentary: Smart Nation 2.0? Three ideas to keep Singapore smart

Novel ideas are needed more than ever to keep Singapore smart, and to ensure digital transformation works for workers, students and companies, argues Singapore University of Technology and Design's Poon King Wang.

By Poon King Wang   Posted 26 Mar 2017 10:00

A lion looks to the future, at The Future of Us exhibition held at Gardens by the Bay in 2015 to 2016. (Photo: Leong Wai Kit)

SINGAPORE: The provocative power of digital advances lies in the novel ways we can use them to improve lives. The newly announced Smart Nation and Digital Government Office under the Prime Minister's Office (http://www.channelnewsasia.com/news/video/new-smart-nation-and-digital-government-office-to-be-formed-on/3611382.html), is recognition of this transformative power.

Digital advances push us to think more expansively about what is smart. Building on recent major government initiatives, the following possibilities outlined here present opportunities to think beyond physical places and infrastructure constraints and build a more inclusive society. They aim to tackle job disruption precisely, nurture each student's strength by drawing on global resources, and scale-up solutions more readily.

IDEA 1: THINK TASKS ON TOP OF SKILLS

"The top priority for the Smart Nation (initiative) has to be jobs, jobs, jobs," Minister-in-charge of the Smart Nation initiative Vivian Balakrishnan stressed during the Budget 2017 debates.

Global debates about digital disruption and jobs are divided. Techno-pessimists warn us that all jobs are at risk. Techno-optimists assure us jobs will evolve. There is a divergence in thinking on how we should approach these disruptive forces.

Automation has transformed the productivity of manufacturing since industrial robots first started painting, cutting, welding and assembling in the 1960s. (Photo: AFP)

Can we tackle disruption better? We have so far focused primarily on skills. However, emerging evidence suggests we should focus on tasks too, because tasks add precision to skills.

Massachusetts Institute of Technology Economics Professor David Autor points out tasks "have played a key role in reshaping the structure of labour demand in industrialised countries in recent decades". Stanford University's report *Artificial Intelligence and Life in 2030* states "AI systems are specialised to accomplish particular tasks". The consultancy McKinsey concluded last year that analyzing "work activities rather than occupations is the most accurate way to examine the technical feasibility of automation".

Digital advances break down jobs into tasks, which are automated or performed by humans. When all tasks are automated, humans lose jobs. But humans also create new tasks, turning them into new jobs.

By examining tasks, we can see which tasks, and subsequently which jobs, workers, and companies are more likely to be disrupted. We can thus better prepare them for the future and take corresponding steps to do so.

For example, the chart below details the tasks an information security analyst carries out, and shows which of these are shared with other IT professions. Professionals in the latter who wish to become an information security analyst can see which tasks they have experience in, and which they need training in. Workers and companies can thus target their training better.
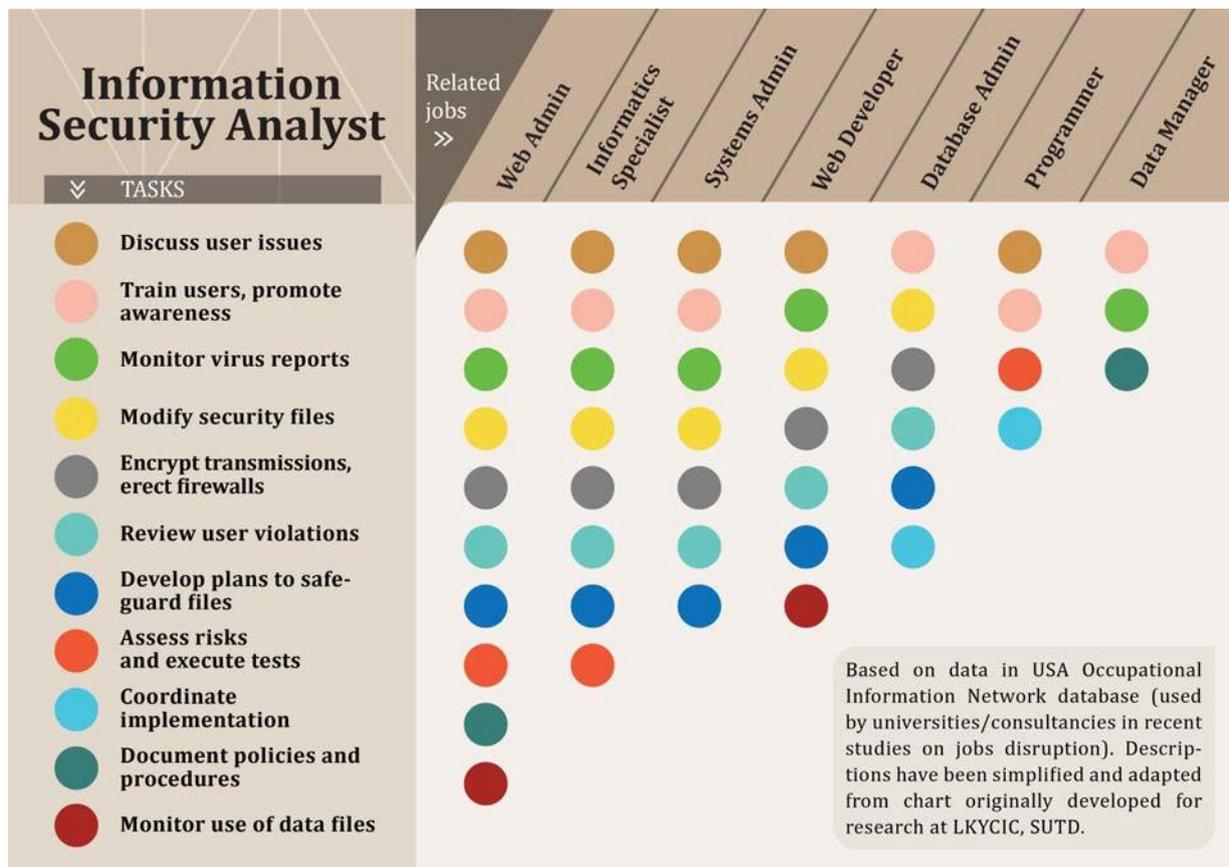
Chart showing tasks performed by professionals in the IT sector. (Source: SUTD)

There are potential wider economic benefits to adopting such an approach. The Netherlands Bureau of Economic Analysis conducted a study of cities, tasks and skills. They concluded that tasks explained a "significant part of the changes in employment", and cities with more tasks connected to each other had higher employment growth. Examining how connected tasks are could target economy-wide job growth better.

IDEA 2: FROM MORE TO ALL – GLOBAL MENTORS FOR EVERY STUDENT

Budget 2017 saw greater emphasis on nurturing students' strengths. More students can now stretch and develop their talent.

The story of an eight-year-old Singaporean I met during our projects suggests we could nurture *all* students according to their unique diverse strengths.

Adi lives in a HDB flat and attends a neighborhood school. He also represented Singapore at the Asian Youth Chess Championships last year. Interestingly, he picked up chess by chance only three years ago.

How did Adi become championship-ready so quickly? Indeed, he has sparred online against algorithms and top chess players worldwide (who did not know his age).

But Adi made the most progress with his online coach, Prab. Other coaches - in person and online - had not worked out.

Coach Prab is based in India. He also suffers from double kidney failure. To reduce infection risks, he started coaching online. He watches, reviews and discusses Adi's online chess games with him. He even uses AI analysis to augment his feedback.

File photo of chess board. (Photo: AFP)

Consider for a moment what has happened.

Now imagine assembling, for each student, their own individual global team of mentors, augmented by technology, to pursue their unique talent. Imagine what each student could achieve. Each could pursue excellence and become as good as they can be. Some might even be among the best in the world.

Trends in the global gig economy and talent marketplace suggest such global teams of mentors could be affordable: they can come from any part of the world, are hired for only part of their time, and are mentoring digitally.

Large countries will find it challenging to do this. But a small Smart Nation with annual Primary One cohort sizes of forty thousand can. If we do, imagine the impact we could have on the world.

IDEA 3: GOING GLOBAL – SCALE-OUT BEFORE SCALE-UP

The Committee on Future Economy highlights that Smart Nation digital solutions "can be exported to rapidly urbanising cities in Asia" (http://www.channelnewsasia.com/news/business/committee-on-the-future-economy-outlines-direction-for-singapore/3501854.html). The current model: test-bed in Singapore, scale-*up* here and then scale-*out* to the region.

Singapore's size and single-layer governance offers speed and simplicity for test-bedding and scaling up. But the market is small, and scaling out to cities with more complicated governance is challenging.

Moreover, our infrastructure and environment have been so carefully honed, that solutions which work well here, might work less well elsewhere. "The environment exacts a price for the survival of the fittest: it captures them," says Jacob Bronowski in *The Ascent of Man*. He draws an analogy: the Grant gazelle was "gracefully adapted" to the savannah to escape predators, but "its lovely leap never took it out of the savannah".

What if for digital solutions, we flipped the current model to first scale-*out* test-beds concurrently to Singapore and two regional cities, then scale-*up* in all three? We can still exploit Singapore's strengths, and concurrent regional test-beds could yield versatile solutions more easily deployed to different cities.

The Marina Bay central business district is home to many businesses in Singapore. (Photo: REUTERS)

Adopting this model means changing how we invest, recruit, and educate. Funding and financing will have to account for additional risks. Companies will need multi-city expertise. And tertiary institutions will have to immerse students in multi-city projects.

Current business models suggest we cannot afford to do this. But for long-term economic prospects, can we afford not to?

GET SMART BY DISAGREEING TO AGREE

We often need novel and provocative possibilities to think expansively.

One way to find them might be to disagree to agree. Nobel Laureate Daniel Kahneman and pioneering psychologist Gary Klein, who respect each other's work, arrived at differing conclusions about how people make snap decisions. They did not choose to agree to disagree, and move on with their own work. Instead, they examined together why they disagreed. They found that they "agree(d) on most of the issues that matter", and collaborated to elaborate on this. They chose to disagree, and used that to subsequently find agreement, and a superior outcome.

Disagreements between citizens, companies, cities and countries are inevitable. We could choose to agree to disagree, and leave it at that. Or if we respect each other, we could do the smart thing: choose to first disagree to agree, so as to search for subsequent agreement and a superior outcome.

Like what Kahneman and Klein did.

That will make our nation really smart.

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