

Disruptive change and the Singapore dilemma

The future of work, universities and the economy was discussed yesterday at The Straits Times Education Forum 2017, which was organised in partnership with Singapore Management University (SMU). It saw spirited exchanges over issues in higher education, including how universities should evolve to ride the disruption wave, and which skills they need to impart to students to keep them employable. Below are excerpts of the forum's keynote address by **Ho Kwon Ping**, chairman of SMU's board of trustees and executive chairman of Banyan Tree Holdings.

We all know by now that disruption has become the new normal in various industries where computerisation, robotics and artificial intelligence will make many traditional, even highly skilled but repetitive, jobs redundant.

Everyone – your teachers, political leaders, social media pundits – all talk so much of digital disruption that it has become a cliché. And, of course, the danger of clichés is that they stifle deeper questioning; beyond being told that disruption has hit us and that flexibility is the only way to survive, most people don't have much else to say.

By asserting that we don't know what new jobs will replace displaced ones, we can avoid the ignominy of being wrong in our speculation. But while this is a comfortably safe and ostensibly wise position, it is also a cop out.

Universities, as thought leaders, should have the courage, indeed the audacity, not so much to predict what jobs might disappear, but by drawing upon the lessons of the past to see into the future, to speculate what new jobs might emerge. Furthermore, we need to walk the talk by training students in fields of study which can dovetail with jobs which still do not exist today.

That is the challenge we embrace at the Singapore Management University. We may get it wrong, but at least we try to get it... we do not feign helplessness in the face of disruptive change. Like the proverbial surfer, we want to catch the wave before it cascades over us, so that we can ride the wave rather than be crushed beneath it.

But it isn't easy.

And one big impediment is a uniquely Singaporean dilemma. That is the glaring contradiction between our numerous scholastic achievements on one hand, versus our lack of innovative capabilities on the other.

Singapore high-school students have been regularly acing international benchmarking tests, topping the world in reading, mathematics and science scores. To list the various different indices would border on boastfulness. But it is interesting to note that the Programme for International Student Assessment, famous for its acronym Pisa, has ranked Singapore students the highest amongst 70 developed countries, not just in scholastic achievements, but also in using their knowledge and skills to solve real-world problems.

That's the good news. The not so sterling news is how these achievements translate into practical measures of innovation and entrepreneurship. While we're being ranked No. 1 in the Global Entrepreneurship Index for the ease of doing business, Singapore ranks a lowly 24th in displaying innovation and entrepreneurship.

Worse, although Singapore is ranked sixth in the world according to a Cornell-Insead 2016 report for encouraging innovation, we are placed at 78th in the world in terms of actually achieving innovation efficiency – the ability to increase productivity via innovation.

What does this say? Something which we all already knew in our heart of hearts. And that is quite simply that our schools teach the basics extremely well and their academic rigour is second to none, but beyond that, we have not been able to convert these academic achievements into real-life innovations which promote entrepreneurship or productivity. Our students rank the top globally in science scores, but probably amongst the lowest in improving the proverbial mouse trap.

For most of us involved in education, this is not breaking news. We have long worried that our acclaimed academic rigour is turning into rigidity; that our focus on just a few measures of achievement may turn into intellectual inflexibility. But when the world was rapidly globalising along well-defined, predictable trajectories, Singapore soared along with the trends.

Now, however, in an age of disruptive change, our much focused disci-



In his keynote address, Mr Ho says that one big impediment in adapting to disruptive change is the glaring contradiction between Singapore's numerous scholastic achievements on the one hand and its lack of innovative capabilities on the other. In the audience are (from right) The Straits Times' (ST) senior education correspondent Sandra Davie; Ms Nandini Jayaram, Google Asia-Pacific's human resources lead for South-east Asia; SMU president Arnoud De Meyer; Mr Warren Fernandez, ST editor and editor-in-chief of Singapore Press Holdings' English/Malay/Tamil Media Group; SMU provost Lily Kong; ST news editor Marc Lim and ST managing editor Fiona Chan. ST PHOTO: LAU FOOK KONG

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pline can become an archaic impediment. It can produce the contradictions I highlighted just now, and deter our ability to adapt to disruption. Like great business brands which failed to innovate and adapt fast enough – Kodak, Xerox, Nokia, just to mention a few – will Singapore Inc join their ranks?

GLOBALISATION OF TALENT

For the jobseekers, there are two burning questions: How do I discern which jobs will survive and which will disappear, and what skills do I need to protect myself against redundancy? For policymakers, how can the state protect against job loss and promote job creation?

Partly because the boom years of globalisation, which certainly saw a lot of creative destruction, created unprecedentedly enormous inequalities of wealth, and political elites ignored the voiceless, disenfranchised masses, a political backlash in recent years has favoured job protectionism rather than job creation. The trade-off, however, is that the protection of jobs which are no longer economically sustainable will delay the rise of new industries with more creative and productive jobs.

Ironically, however, while job protectionism is an increasingly loud clarion call for populist politicians, society is moving the other way. Not only is technology rendering previously safe jobs redundant, but the existence of lucrative, regulated professions – the most elite form of job protectionism – is being challenged by the globalisation of talent.

Doctors, lawyers, accountants are not just smart people because of the nature of their work. They're smart because they've created and maintained very effective barriers to entry by outsiders, even those with even the same or even higher skills than them. The celebrated investor Warren Buffett once said

that he'd invest in industries with natural moats – the water bodies surrounding mediaeval castles and serving as barriers to entry. In jobs, doctors and lawyers have natural moats, because of the certification required to keep outsiders at bay. But the moats are drying up.

There are pressures to allow doctors and lawyers trained anywhere in the world to practise in Singapore so long as they pass the requisite competency exams. In New Zealand, anyone can be an architect without going to architectural school, if you can demonstrate knowledge of the information required to prevent your buildings from collapsing.

In other words, genuinely meritocratic, skills-based certification will replace elite job protectionism. The globalisation of talent is finally eroding the last bastions of job protectionism – the elite professions.

Because of demographic trends, there will likely always be a shortage of doctors for a long time to come. But for lawyers? I'm not so sure, because just as fintech is replacing hundreds, and soon thousands, of financial analysts, hundreds of young lawyers doing legal research will be easily replaced by the most advanced search engines and artificial intelligence algorithms.

Rapidly advancing technologies in data science will replace medical and legal researchers and assistants, leaving only the most creative, adaptive, and forward-thinking professionals in these fields safe. This is not to discourage you from joining our law school, far from it. But it is true that in virtually every profession, from accountancy to law to engineering to medicine, the highly complex but routinised work will eventually be replaced.

What other jobs may disappear by the wayside?

INTERDISCIPLINARY KNOWLEDGE

If we look closer to home, what does this mean for education in Singapore? SMU has recognised that innovations and solutions often emerge at the intersection of disciplines. In 2015, SMU introduced SMU-X courses to give students real-world, hands-on experience through a structured pedagogical approach that involves working collaborative-

ly in groups and solving actual, interdisciplinary problems faced by companies and organisations, under the guidance and mentorship of faculty and practitioners.

Through SMU-X, the university aims to train its undergraduates to "learn how to learn", and nurture skills set to prepare them for the volatile working world. SMU-X also serves to create a mindset for collaboration across disciplines, as well as with external stakeholders from diverse fields.

Increasingly, undergraduates will be able to create their own combination of courses to fit their own aspirations. The intersection of disciplines will be where new jobs will be created. Biology and engineering was one combination already emerging during my time as a student, with the exciting new field of bio-mechanics. Add to that computer science and the just emerging field of bio-robotics suddenly emerges...

Starting August this year, SMU

The future of work will require individuals to prepare for different careers, which will entail continuous learning and education throughout one's working life. To this end, SMU has established the SMU Academy, which allows for continuous learning through taking stackable courses starting from a certificate course, to diploma, and working your way to a full postgraduate programme, or taking short executive development courses, whilst you are working.

will offer another new interdisciplinary major, this time in Smart-City Management and Technology, which aims to nurture graduates who innovate solutions to urbanisation challenges through application of interdisciplinary knowledge across technology, social sciences and management.

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To serve the growing learning and training needs of SMU alumni, we have designed an enhanced Professional Development Series. Aside from existing offerings of professional development talks, workshops, and fireside chats, graduates will need to be versatile and multi-talented, with key competencies and skills.

They require the ability to work across departments, take on expanded roles, nurture an entrepreneurial mindset, and be empowered to take on greater responsibility. They should also have intellectual curiosity, be able to work effectively on group projects, creative and self-directed.

Additionally, to be able to work across boundaries, graduates will require skills in strategy, negotiation, cross-cultural appreciation and communication, and problem solving.

Sounds pretty heavy – and it won't be easy to balance the need to sharpen one's competency in these areas while holding down a full-time job, getting married, forming a family, and so forth. But it is the role of universities to continue helping our alumni long after they graduate.

I would like to conclude by encouraging our students in the audience to embrace change, to adopt a positive and self-reliant attitude so as to ride the waves of disruption. Or better yet, be a disruptor yourself and create new jobs for yourself and for others.