**Publication: The Business Times, p 13**
**Date: 23 March 2016**
**Headline: The FinTech promise**

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# The FinTech promise

### SMU's Professor David Lee says Singapore ought to capitalise on and improve its financial technology edge – by serving the hinternet including its Asean neighbours

PROFESSOR David Lee Kuo Chuen contemplates the future of Singapore's banking and finance sector in the wake of explosive growth in global financial technologies, and his characteristically inquiring mind searches for the next big asset class. "I am always looking for the next big thing in finance," Prof Lee said. He believes it lies in financial technology or FinTech.

A Practice Professor of Quantitative Finance at Singapore Management University (SMU), Prof Lee has a distinguished career in both the corporate and the academic world, specialising in areas such as portfolio management and alternative investment. And yet, he scarcely invests in stocks, bonds or even hedge funds today. Instead, his energy and resources are focused on FinTech.

FinTech refers to financial services or products built upon technology – they are often new, customer-centric solutions such as innovative applications or processes in the financial services industry using cryptography, big data or artificial intelligence.

Prof Lee thinks FinTech is relentlessly disrupting the global financial system in a significant way and challenging traditional banking's viability. Investment in FinTech globally increased from US$930 million in 2008, to US$12 billion in 2014, and US$23 billion in 2015. Although consumer behaviour is changing rapidly along with spikes in internet penetration and smartphone adoption rates, Asean is still largely illiterate in internet finance. This presents a vast opportunity for FinTech to serve the unbanked and underbanked with better alternative financial and insurance services, thereby threatening existing financial institutions. Serving the unbanked or underbanked at the bottom and middle of the pyramid, is now not only technologically feasible but also economically viable and critical.

Singapore banks have to embrace FinTech to compete and grow locally and in Asean. To this end, traditional financial institutions must discard their risk-averse culture and infrastructure inhibitions.

## The journey to FinTech

Prof Lee began his career in the 1980s as an econometrician, after graduating with first-class honours, and subsequently a master's degree and PhD all from the London School of Economics (LSE), majoring in Mathematical Economics and Econometrics.

He then went into institutional stockbroking with Fraser Securities in 1994, and became managing director of Fraser Asset Management in 1998, before setting up Ferrell Asset Management in 1999. In the mid-2000s, he was group managing director of food manufacturer and distributor Auric Pacific, and real estate conglomerate Overseas Union Enterprise (OUE).

The global financial crisis and its aftermath took a toll on many businesses. Despite monetary easing by central banks, money went into speculative activities like property, commodities and complex financial products rather than to small and medium enterprises.

"Doing business in a small economy like Singapore is tough, firms don't have much pricing power and cannot scale fast enough to have traction to grow," he said.

"I could not fully understand what was going on in the market after the global financial crisis, until after I was conferred a professorship by SMU in 2012 to conduct research, teach, and have opportunities to engage with global thought leaders in finance."

Soon after that, Prof Lee was involved in studying and organising conferences on FinTech such as digital banking and Bitcoin, a nascent digital currency that surfaced in 2008. He led the university's Sim Kee Boon Institute for Financial Economics as both executive director and academic director from 2014 to 2015, and spent four months in 2015 in Stanford University as a Fulbright Scholar to study the ecosystem of Silicon Valley.

While expanding his research to internet finance, he had his next epiphany. "Having another server doesn't cost a lot of money but it enables reaching out to a lot of customers," he said. But scalability alone is not enough. He learnt from Silicon Valley that to be innovative and execute scalable technology for the masses, a collaborative culture and structure are equally important, especially for financial institutions.

He believes that investors will soon realise that investable "hedgelabs" have the potential to outperform hedge funds or venture capital to become an asset class in its own right, with unique risk profiles, returns, and complexity. A "hedgelab", a term he invented, is an investment vehicle or structure resembling that of a hedge fund incorporating a technical laboratory to hedge for the future. e-ICBC has successfully developed its e-commerce platform "Rong e Gou" to be the second largest after 18 months, overtaking JD.com and ranked behind Alibaba in Gross Merchandise Value. Other banks such as BBVA are setting up structures that resemble hedgelabs.

**"Over time, the finance sector will be disrupted. So to stay ahead, it has to embrace FinTech and innovate responsively, and tap into the vast neighbouring markets."**

**David Lee Kuo Chuen, Professor of Quantitative Finance (Practice), Lee Kong Chian School of Business, Singapore Management University**

## Social responsibility

In thinking about the rich-poor divide, Prof Lee realised that FinTech can help people improve their lives through the sharing of services and assets.

With research and the help and encouragement of many colleagues, he has devised a framework known as LASIC, which stands for low-margin, asset-light, scalable, innovative, and compliance-easy.. These are five characteristics of successful FinTech businesses. The model was recently adapted by audit giant EY to analyse FinTech companies around the world for the UK's Treasury.

FinTech businesses must be able to expand without large fixed-cost investments, and operate in lightly-regulated environments.

One example is China's payments service provider, Alipay, which offers credit to customers identified through analysing spending behaviour. Alipay's previous parent company, e-commerce giant Alibaba, is thus able to offer quick low-cost loans to small merchants in ways that traditional banks cannot.

M-Pesa is another example. The mobile money transfer service in Kenya offered by mobile network operator Safaricom, an associate of UK telco Vodafone, has diversified and expanded its services to loans and rental payments.

Prof Lee invented another new term called "hinternet" where large numbers of users are "sticky". Unlike hinterlands, hinternets have no physical boundaries. Alipay has Alibaba as its hinternet and M-Pesa has Safaricom.

## Singapore's future

Looking at FinTech's developments and trends, Prof Lee anticipates challenges and opportunities for Singapore's economy. Its finance sector employs just 5 per cent of the workforce but contributes over 12 per cent to gross domestic product (GDP). Singapore has always been the middleman and regional hub in trade, finance and transport, but this can be made redundant with technology.

"Over time, the finance sector will be disrupted. So to stay ahead, it has to embrace FinTech and innovate responsively, and tap into the vast neighbouring markets," he said.

Singapore has a developed regulatory framework and is trusted, he said. Startups and FinTech companies here have the potential to serve our neighbours and disrupt other companies around the world. What Singapore needs is a frictionless "on-ramp" for the financial institutions and startups to get on the highway to reach these hinternets. If we can enhance our compliance standard to a regime that is frictionless and effortless through technology, many businesses can reach the highway of hinternets with abundant sticky customers and valuable data.

We can and should develop more talents savvy in both finance and technology, who are adept in areas such as blockchain technology, artificial iIntelligence or data analysis. "Data contains valuable information which you can monetise, and investments in hedgelabs that harness data on hinternets will create many future digital economy jobs and yield good returns," he said.

LASIC can also be harnessed to serve the needy to narrow the social divide.

"We need to change the culture and not brush off crazy ideas and unconventional people who are willing to fail," he said. Ultimately, Singapore must promote an ecosystem that encourages companies to venture, knowing that only some end up succeeding.

"Talents are not lacking in Singapore. We should seize the opportunity to grow our own core talents, in order for the finance sector to not just survive but continue to lead and thrive sustainably," he said.

**This is a monthly series brought to you by the Singapore Management University. Next month's feature will discuss the role of mobile sensing and crowdsourcing in emerging Smart Nation services.**