# Guest editorial

## A multidisciplinary disruptor, blockchain

Whilst preparing the editorial for this edition of the *Asia Pacific Journal of Innovation and Entrepreneurship* (*APJIE*), the guest editor Dr Youngwhan "Nick" Lee noted a recent news article that quoted the CEO of JP Morgan Mr Jamie Dimon, "Bitcoin is a fraud and will blow up" (The Guardian, 2017). Dr Lee understands where this argument originates from, but disagrees with the statement.

Bitcoin with blockchain has many similarities to automobiles with steam locomotive invented in the nineteenth century. Pundits and market gurus describe blockchain in much the same as the steam locomotive was described that it would take people to the moon. They say Bitcoin is digital gold that will replace fiat currencies. The truth was, it would never take people to the moon. Likewise, Bitcoin will never replace fiat currencies because many issues need to be resolved. In a nutshell, depending on how you look at it, claiming "Bitcoin is fraud" has some validity.

Bitcoin may seem like fraud; however, blockchain (or distributed ledger technology, also known as DLT) is not. In fact, we believe blockchain is arguably the most foundational technology in the 4th Industrial Revolution. Don Tapscott wrote in an article to Harvard Business Review, "The technology most likely to change the next decade of business is NOT the social web, big data, the cloud, robotics, or even artificial intelligence. It's the blockchain, [. . .]" (Tapscott and Tapscott, 2016).

Wholeheartedly agreeing with Mr Tapscott, we, the editors, are pleased to publish a special issue to discuss the proliferation of the technology and the impact to the business innovation and entrepreneurship. We believe DLT is *disruptive*, not in the narrow meaning as Dr Clayton Christensen defined (Bower and Christensen, 1995), but in much broader meaning than that.

According to Christensen and his colleagues (Christensen *et al.*, 2015):

> Disruption describes a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent businesses. Specifically, as incumbents focus on improving their products and services for their most demanding (and usually most profitable) customers, they exceed the needs of some segments and ignore the needs of others. Entrants that prove disruptive begin by successfully targeting those overlooked segments, gaining a foothold by delivering more-suitable functionality—frequently at a lower price. Incumbents, chasing higher profitability in more-demanding segments, tend not to respond vigorously. Entrants then move upmarket, delivering the performance that incumbents' mainstream customers require, while preserving the advantages that drove their early success. When mainstream customers start adopting the entrants' offerings in volume, disruption has occurred.

They argue that although many may look disruptive, they are not "disruptive" by the original definition. For example, Uber may be "transforming the taxi business in the USA",

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but its financial and strategic achievements do not qualify for the previous definition. Hence, it is NOT a "disruptive innovation".

Downes and Nunes deviate to a different model of disruption (Downes and Nunes, 2013). In fact, they found disruptive innovation defined by Bower and Christensen has a blind spot:

> It assumes that disrupters start with a lower-priced, inferior alternative that chips away at the least profitable segments, giving an incumbent business time to start a skunkworks and develop its own next-generation products.
>
> That advice hasn't been much help to navigation-product makers like TomTom, Garmin and Magellan. Free navigation apps, now preloaded on every smartphone, are not only cheaper but better than the stand-alone devices those companies sell. And thanks to the robust platform provided by the iOS and Android operating systems, navigation apps are constantly improving, with new versions distributed automatically through the cloud.
>
> The disruption here hasn't come from competitors in the same industry or even from companies with a remotely similar business model. Nor did the new technology enter at the bottom of a mature market and then follow a carefully planned march through larger customer segments. Users made the switch in a matter of weeks. And it wasn't just the least profitable or "underserved" customers who were lured away. Consumers in every segment defected simultaneously—and in droves.
>
> Disrupters can come out of nowhere and instantly be everywhere. Once launched, such disruption is hard to fight.

They call this "big-bang disruption". According to the authors, "big-bang disruptions are unplanned and unintentional". Innovators (or disruptors) tend to make solutions less than perfect, repeatedly. And then, they make it unbelievably right. Despite many previous failed experiments, they found, "in today's hyperinformed world, each epic failure feeds consumer expectations for the potential of something dramatically better" (Downes and Nunes, 2013).

Considering then if blockchain technology is disruptive, it is neither disruptive innovation as defined by Christensen *et al.* (2015) nor big-bang disruption as found by Downes and Nunes (2013). It is a lot bigger than what was previously defined (Lee, 2017). Neither definition circumvents the disruptions caused by the technology which tends to be multi-directionally and simultaneously disruptive. In fact, services and products based on blockchain technology disrupt many different markets.

As an example, disruption is occurring in cryptocurrencies. Cryptocurrencies, led by Bitcoin and Ethereum, are getting attention because many of them have proved to be worth hundreds of dollars, if not thousands. The Bank of International Settlement (BIS) has advised that central banks cannot ignore the growth of cryptocurrencies and may at some point have to consider whether it makes sense for them to issue their own digital currencies. (Bech and Garratt, 2017) (Figure 1).

Applying the big-bang disruption by Downes and Nunes to cryptocurrencies, the question could be: where should the cryptocurrencies such as Bitcoin and Ethereum be located? At A, B, C or D?

Big-bang is a complete solution hitting the market hard. Seeing how big the impact of Bitcoin and other cryptocurrencies are, we tend to assume that Bitcoin must be the big-bang to the currency market. However, a big-bang disruption occurs when the solution is sound and complete. Acknowledging that there are problems with Bitcoin and other cryptocurrencies, then they can hardly be considered as a final big-bang; however, they could qualify as being good-sized explosions. This then means that a final big-bang event is

still to come. Considering the size of the explosions so far, the final big-bang will be the size and impact that we have not experienced before.

A curious mind would want to know how the final big-bang will arrive. Downes and Nunes quotes Hemmingway for the clue (Downes and Nunes, 2013, pp. 111-112):

> "How did you go bankrupt?," Asks one character in Ernest Hemingway's novel The Sun Also Rises.
>
> "Two ways," his friend replies.
>
> "Gradually and then suddenly".

The incumbents are going bankrupt, to paraphrase Hemingway, gradually and then suddenly. Are you among the prepared? As Louis Pasteur stated, we know that fortune favors the prepared.

The papers we present in this issue may be very small in number. As the technology is still new, there is yet to be much academic research done and therefore, there have been only a few papers to review and publish. However, the technology is NOT small and humble. We will see the big-bang explosion very soon.

This volume of the *APJIE* 11, No. 3 has been originally designed to invite eight Block chain papers including the papers selected from the ones presented at the 2nd World Fintech Forum: Block Chain, Business and Startups, held at Cha University, Seoul Korea on July 20 through 21, 2017. Nine papers were presented at the forum; however, fewer papers were submitted than expected due to many of the speakers not being from an academic institution but rather practitioners in the field. It was also not easy to set up theoretical frameworks in writing a research paper as it still is an emerging area of academic research. Only five papers were judged as suitable for publishing by the fastidious *APJIE* review process. However, the *APJIE* DESK is happy to wrap up the Special Issue on the Block Chain Technology with five block chain technology papers and the remaining papers in the field of innovation and entrepreneurship.

Finally, the *APJIE* DESK is very happy to invite an additional member to Associate Editor, Professor of Tourism at Keimyung University, Dr Soo Hyun Jun, to cover the Emerald System operation in support of the Chief Editor's Board. The *APJIE* Desk is also proud to invite Professor Taeho Park, Ph.D., Director & Professor, School of Global Innovation and Leadership, Director, Silicon Valley Center for Operations and Technology Management Lucas College and Graduate School of Business, San Jose State University, to join our Editorial Advisory Board, to serve our global readers. Also, the *APJIE* Desk would like to acknowledge the contribution made by Professor Gilroy Middleton, University of Belize as a proof reader for the Journal. Proof-reading is a thankless task but very important

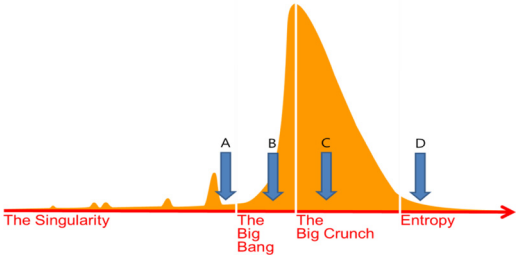


**Figure 1.** Big-bang disruption

when the aim of the Journal is to publish academic research into innovation and entrepreneurship from Asia and the Pacific when English is not the first language of the majority of contributors. The *APJIE* Desk would like to welcome Mr Phillip Kemp, Vice-President of the Asian Association of Business Incubation, as the new proof reader for this *APJIE* Journal. The *APJIE* Desk is also most grateful to the generous support of the Singapore Institute of Management (SIM) (Chairman, Prof. Cham Tao Soon, former president of Nanyang University) for the publication of the *APJIE* for the coming three years! The *APJIE* Desk is humbly dedicated to upgrade the quality of the *APJIE* to meet the expectation of the supporters and our global readers.

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