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ASIAN BANKERS ASSOCIATION

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AIMS & SCOPE OF THE JOURNAL

The Journal attempts to link conceptualists and practitioners in banking and finance and related aspects of the industry. It is aimed at providing articles that may serve as guidelines in banking and finance operations.

The ABA Secretariat welcomes opinions and comments and will be glad to consider for possible publication articles relevant to the aims and purposes of the Asian Bankers Association (ABA) and of this Journal.

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IN THIS ISSUE (Vol. XXX, No. 1, 2019)

This issue features articles that appeared in BRINK, the news service of Marsh & McLennan Insights, a research institute dedicated to analyzing increasingly complex risks that are reshaping industries, governments, and societies. Drawing on the resources of Marsh, Guy Carpenter, Mercer, Oliver Wyman, and independent researchers, Marsh & McLennan Insights collaborates with industry, government, non-governmental organizations, and academia around the world to explore new approaches to problems that require shared solutions across economies and organizations. BRINK gathers timely perspectives from experts on risk and resilience to inform business and policy decisions on critical challenges. The editors and staff of the ABA Journal of Banking and Finance would like to take this opportunity to thank the authors – and Marsh & McLennan Insights - for sharing their materials with the ABA and its members.

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ASIAN BANKERS ASSOCIATION

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How is the Definition of Money Changing in Asia?

Kayla Matthews

Founder of Productivity Theory, Technology Journalist, and Cryptocurrency Writer



Up until about a decade ago, people in Asia-Pacific countries were largely dependent on banks for depositing or withdrawing money. They also paid for things with physical currencies.

Now, thanks to the development of products and services offered by fintech companies, residents of Asian countries can do more without ever interacting with banks. These developments are transforming the financial services sector in the region and throwing up new opportunities for a number of players.

These developments have implications for governments as well, as they want to encourage fintech, especially if it is resulting in greater financial inclusion. At the same time, they seek to closely monitor and regulate the financial services sector.

E-Payment Methods Are Taking Off—Especially in China

Risks with physical payment methods have caused stress for people through the ages. For example, people lose their wallets while on vacation or realize that they misplaced their credit cards and frantically try to retrace their steps to remember all the merchants they visited recently.

However, those risks go down when people embrace electronic means of paying for things, which is happening throughout Asia-Pacific countries.

While buying things online, people in the Asia-Pacific region may be more likely to buy things through mobile wallets or other electronic methods than with traditional credit cards. That finding comes from a report covering 10 major markets, which found that nearly 50 percent of e-commerce purchases were paid for with those

newer options.

However, credit cards will not disappear anytime soon. The research also showed an increase in online purchases from shoppers in Vietnam and Indonesia and found that people in these countries still prefer using credit cards to make payments.

Mobile payments enjoy an exceptional level of adoption in China, where it's almost unheard of to pay for things with cash. WeChat Pay and Alipay are two of the most popular payment apps relied upon by people in China, and each option boasts hundreds of millions of active monthly users.

Analysts also project that the transaction volume of Chinese mobile payments will reach \$47 trillion in 2019, thanks in large part to the popularity of QR codes that let people make payments with their smartphones' scanners. Even street musicians use this system, asking people to scan cards printed with QR codes instead of tossing real money into open instrument cases.

It's important to point out that people prefer e-payments and mobile wallets in China because they are more user-friendly than dealing with state-owned banks or applying for credit cards. Moreover, WeChat Pay is an extension of WeChat, a messaging platform used by a billion people. Since individuals were already used to the app, using the same app for payments made sense.

Mobile Wallets Are Key Drivers of Growth

Many people in today's society cannot imagine being without their mobile phones for even an hour. And, the fact that most mobile wallets are available as smartphone apps increases the likelihood that people feel open to trying them. The mobile wallets available in the Asia-Pacific region so far also typically have backing from a nation's banks, allowing for quick and seamless money transfers.

The growth of mobile wallets is considered one of the primary factors spurring the boost in the mobile e-commerce market. In Singapore, for example, mobile e-commerce should account for \$4 billion by 2021 and overtake the transactions that occur on desktop machines. However, mobile wallets are still not used as often in Singapore as in China.

For comparison, 4 percent of people in Singapore use mobile wallets compared to 40 percent of Chinese residents. However, the country is catching up thanks to a 53 percent increase in mobile payment adoption since 2017. That rise is the same as Hong Kong's and significantly more than the U.S.'s.

People in Singapore typically prefer to use mobile payments and wallets that are linked to their credit cards. Physical banks should keep that in mind as they strive to keep up with the cashless revolution. Security is reportedly the top concern that stops residents in Singapore from using mobile wallets, and secure transactions must be prioritized if the technology is to continue gaining momentum.

Elsewhere in Asia, in India, the country's government continues to encourage cashless payments, including for residents' utility bill payments. Bharat Interface for Money is one of the leading mobile payment apps in India—and it has nearly 40

banks associated with it. To compete in an increasingly mobile society, more financial institutions in the Asia-Pacific region may need to follow the lead of these entities.

Cryptocurrencies Could Become Major Players

Market research shows cryptocurrency is a developing technology throughout the Asia-Pacific region. Because adopting cryptocurrency often means venturing into uncharted territory, some of the major countries in the area have had varied reactions while weighing the pros and cons that cryptocurrency could bring. Opinions will likely continue to differ, especially as individual countries investigate if and when to adopt cryptocurrency.

Outside of Asia, in places like the U.S., many unique regulatory and accounting concerns exist around cryptocurrency, and its framework is still evolving. Despite increasing adoption from well-known brands, stock exchanges—including Nasdaq and the NYSE—are slow to embrace cryptocurrencies.

Numerous Asia-Pacific regulatory authorities are concerned about cryptocurrencies, too, especially after viewing bitcoin's growth as abnormal. However, that doesn't mean cryptocurrencies are off the table. Interestingly, a bank in Japan is planning to launch a cryptocurrency on a trial basis in 2019. In Thailand, meanwhile, the country's central bank may develop a digital currency. Regulators there are making significant progress with the project, and Thailand is particularly supportive of cryptocurrencies and blockchain technology.

Another Japanese project involves making a central bank-backed cryptocurrency. For now, most financial transactions in Japan are cash-based. This new cryptocurrency, dubbed the J-Coin, will be available alongside the yen as a free service. As such, people might feel encouraged to give cryptocurrency a try, and that could eventually result in greater uptake.

In Indonesia, a company in Jakarta hopes to entice people to invest in cryptocurrencies with its BBX Coin Gold offering. It's a cryptocurrency that comes with 5 grams of real gold. The Indonesian government has previously warned about the potential risks of cryptocurrencies, though, and that sentiment could make potential investors cautious.

Security and Convenience Must Be Prioritized

Financial transactions for people in the Asia-Pacific region are clearly in transition. As they continue to progress, developers must be mindful of both security and convenience.

Within both the application development and user experience realms, there is often an emphasis on convenience over security. But, that approach has numerous shortcomings, especially since Asian governments appreciate being included as new financial technologies develop. Government bodies want to enable innovation, but they cannot do so at the expense of the security of financial transactions.

Similarly, if individuals do not think that new payment options are easy to

use and secure, they'll likely resist warming up to them and may decide they prefer traditional ways of handling transactions.

Fintech is here to stay, but both legacy banks and emerging financial brands must take care to continue prioritizing security as they seek ways to expand in the marketplace.

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What's Keeping Treasurers Up At Night in 2019?

*James A. Kaitz
President and CEO of Association for Financial Professionals*



Three things dominate the minds of today's treasury and finance professionals: strategic risk, cybersecurity, and the financial markets. That's the picture that emerges from the latest research by my organization, the Association for Financial Professionals.

Our 2019 Risk Survey, which was conducted late last year with the support of Marsh & McLennan Insights, polled nearly 400 treasury and finance professionals. The goal of this year's survey was to take more than a quick snapshot of the industry. Instead, we sought to place the survey in a larger historical context to see where the profession is coming from and where it is headed. Here are the results.

Strategic Risk Still Tops the List

Sixty percent of respondents cited strategic risk, such as increasing competition and industry disruption, as their biggest area of concern. The good news is that that number is down five percentage points from the 2018 survey, suggesting that strategic risk is of slightly less concern for the profession.

Even so, this big-picture mindset demonstrates that treasury and finance professionals remain concerned about risks beyond their department. While it makes sense to be worried about potential existential threats to the organization, these risks cannot be managed within treasury and finance. To effectively understand, measure and mitigate strategic risk, finance professionals must engage and partner with other parts of the business.

Cybersecurity Is Changing, but Still No. 2

Cybersecurity risk ranked second among respondents at 51 percent—it was second in 2018 at 52 percent. So what does this mostly unchanged level of concern tell us? I speak with treasury and finance executives on a daily basis, and all of them remain vigilant about hackers and cyber breaches. After all, they are in charge of sensitive customer financial data—not to mention the organization’s money.

However, while cybersecurity risk remains the second biggest concern, the nature of cybersecurity appears to be changing. Last year, treasury and finance professionals worried about preventing breaches. Now, hacks are so common that they focus almost as much on how to respond in the event one occurs. Likewise, the profession worried about phishing a few years ago. Today, treasury and finance professionals worry about increasingly sophisticated criminals pretending to be the treasurer or CFO and stealing company funds via phony email requests.

A New No. 3: Financial Risk

This year financial risk (39 percent) replaces political risk (34 percent) in the top three. What’s most troubling about this rising concern is that our survey was conducted in October 2018, two months before markets plummeted. Perhaps the 2019 survey was a canary in a coal mine. Treasury and finance professionals say financial risks in the form of uncertainty over credit, liquidity, interest rates and foreign currency are on the rise due to bulging corporate debt loads and trade wars. And they are less worried about political risk now that corporate tax reform was signed into law.

The Common Denominator: Fintech

If there is a common theme to all the risks as well as the staffing levels, it can be summarized in one word: technology.

New technologies like artificial intelligence, blockchain, robotic process automation and faster payments initiatives promise to transform treasury and finance. Used proactively, new technology can liberate staff to focus more on strategic matters and less on rote tasks. But if treasury and finance professionals ignore fintech, they could find themselves at a competitive disadvantage.

While fintech is on the minds of everyone in treasury and finance, only 34 percent of respondents said they anticipate using nontraditional vendors, which include startup fintech firms among others. It remains to be seen if treasury and finance professionals are patiently waiting for more proof of fintech’s applicability and profitability or if they are simply being stubborn.

Staffing Is Static

The top risks identified are not coming out of the blue. And treasury and finance professionals don’t consider these risks as so dire that more full-time staff are needed to fight them. Treasury department staff levels are projected to remain virtually unchanged over the next three years. The median level of staffing is six full-time

treasury employees. In three years, the median is expected to remain unchanged at six, while average treasury FTEs will grow to 15.59 from 14.75.

But because these risks do not originate and cannot be managed solely in their department, treasury and finance professionals need to become strong business partners to management and business units more than ever.

Their skills will need to evolve to address these risks and incorporate new technology if they are to remain relevant and effective in the future.

About Author



James A. Kaitz
President and CEO of Association for Financial Professionals

Jim Kaitz is president and CEO of AFP, an association that represents over 16,000 treasury and financial professionals located around the world. He was formerly executive vice president and chief operating officer of Financial Executives Institute, a professional association of over 14,000 senior financial executives representing 8,000 companies in the United States.

Financial Services Are Uninspiring. A Fresh Start May Be the Solution.

*Chris Allchin
Partner, Corporate and Institutional Banking at Oliver Wyman*



The next big wave of innovation in financial services will be driven by existing firms starting with a blank canvas. For an industry whose product—the movement and storage of money and the management of risk—is electronic, financial services processes are surprisingly manually intensive. Surveys show that customers are rarely inspired by the service, and yet there’s a consensus that a digital overhaul of legacy systems will take many years. At the same time, new businesses underpinned by digital capabilities are gaining traction.

Flywheel of Growth

Imagine if you could combine what is possible in a new build with the business model advantages of an existing firm. We call this approach “greenfield.” It means tapping into the same flywheel momentum of growth employed by big tech and breaking out of the low-returns cycle. Several factors make this idea compelling right now.

Time-to-market and build costs have decreased dramatically, thanks to advances in cloud-based services and technology. Starting with a blank slate, it is possible to create businesses that are digital by design and have significantly lower run costs. And new business models and data-driven approaches are winning over customers.

Examples are beginning to be rolled out across the globe.

In consumer banking, digital “neo-banks” such as South Korea’s Kakao have attracted 6 million sign-ups in less than a year. In Britain, startups Monzo, Revolut and

their peers boast 5 million customers. RBS Group will soon launch Bó, a greenfield digital offering, built with new technology in under 12 months. National Australia Bank has had success with QuickBiz, a fully digital unsecured lending solution, and German insurer ERGO has built Nexible as a challenger to its existing auto insurance business. Goldman Sachs launched Marcus in the U.S. and Europe, allowing it to enter consumer banking.

NEO-BANKS

UK

CUSTOMERS WITH MONZO, REVOLUT, ATOM, STARLING, TANDEM (MILLIONS)



SOUTH KOREA

CUSTOMERS WITH KAKAO (MILLIONS)



Source: Oliver Wyman Analysis; Press Releases

15% of the total banked population attracted by one of South Korea's first digital-only banks in one year

5% UK adult penetration of top digital banks

Faster Time-to-Market

Digital challenges are gaining traction in parts of the financial services market, even while facing skepticism about whether they can scale up. What's interesting are the possibilities these new businesses point toward: the falling time-to-market, the possibility of significantly lower run costs, and the fact that new business models and data-driven approaches are winning customers.

To be successful in the future, financial institutions need to have the same advantages as digital challengers. The State of the Financial Services Industry 2019 report by Oliver Wyman compares a group of traditional banks with a group of digital challenger banks. The average number of customers each person in a challenger bank serves is over 2,500, compared to 1,000 in existing banks. Digital challengers launch new products or services in two weeks—compared to three-to-six-month release timetables for traditional firms. And the cost to acquire a new current account customer is \$30 for the new breed of banks, while a traditional bank spends \$150 on average.

A Catalyst for Change

Greenfield is a method for existing firms to build new businesses. A business starts with a specific customer need, typically identified from existing customer data, in an area that is already strategically important.

Greenfield businesses help to accelerate change in the parent organization. Conventional wisdom gets heavily challenged, customer offerings can be tested more quickly, and access to external innovation is improved. As it expands, the operating platform can be leveraged across the whole business, providing an alternative approach to transformation.

INTRODUCING THE GREENFIELD CONCEPT



EXISTING FIRM

- Established brand
- Customer base
- Funding
- Existing data
- Perceived safety
- Regulatory approval

+



DIGITAL CHALLENGER

- Agile and innovative
- Customer-centric
- Low-cost base
- Cloud-based
- Next generation system
- API driven
- Micro services

>



GREENFIELD BUSINESS

- Best-of-breed technology
- Customer-centricity
- Freedom to operate
- Venture discipline

Start with the Customer

A greenfield build is an attempt to break free from the constraints imposed by existing systems, business models, and talent models. To succeed, it needs to start from the customer, put data and analytics at the core, have a distinct culture and governance, and be built so it can scale up, while meeting security demands.

To drive growth in today's environment, financial services firms need to get on the front foot and build. Rich seams exist across all financial services from which new solutions can be developed and expanded into greenfield businesses.

With the development process getting cheaper and the potential to reuse components across the business, the downside is small. Most important of all, senior management must believe in the endeavor, give it sufficient time, support and attention, and proactively drive the benefits back into the core business.

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Chris Allchin is a Partner in Oliver Wyman's London office with 10 years of experience in the firm's Corporate and Institutional Banking practice. Chris has worked in depth with major financial institutions in Eastern and Western Europe, North America and Asia with an emphasis on investment banking and corporate banking.

Coping with the Changing Nature of Insurance Distribution in Asia

Tom Ludescher
CEO Asia & EMEA of Entsia International



The first part of this piece looked at the changing face of insurance distribution in Asia, especially with respect to its digitization and through the emergence of new digital channels that are seeing different vendors enter the broader insurance space like never before.

The pace of change is tremendous, and the opportunities are large, but the recent developments have also given rise to new challenges that incumbent insurers and emerging insurance ecosystems will need to overcome if they are to remain relevant and create self-reinforcing ecosystems.

Potential Challenges for Insurance Ecosystems

Most e-commerce transactions are simple one-time exchanges of cash for goods. Once a transaction is completed, the relationship between vendor and buyer is over. Insurance is different as the relationship between vendor and buyer only begins after the initial transaction. There is a myriad of possible interactions that can take place thereafter. If only the initial transaction is provided by the ecosystems, but all other interactions take place beyond the ecosystem, there is little additional incentive for customers to buy insurance through the ecosystem.

Offering the full range of insurance-related interactions, on the other hand, requires an end-to-end integration between an ecosystem's customer-facing platforms and all participating insurers. Unfortunately, the insurance industry is notorious for failed integration products and its lack of prevailing industry standards for IT systems and interfaces. Moreover, industry consolidation in the past decades has resulted in

insurers having multiple disjointed core systems, many of which are bespoke siloed legacy technologies, further calling into question the scalability of integrating them into an ecosystem.

Finally, insurance core systems are also often built in product silos with very little compatibility between the different products silos, complicating integration further. When it comes to multichannel distribution, these difficult-to-integrate product silos get even further multiplied by the number of channels used by an insurer for distributing its products, making the entire distribution setup highly complex, costly and clumsy. Sound, agnostic and scalable technology that can onboard insurance partners and products quickly and cost-efficiently as well as create interoperability among the participating parties' diverse systems will be the cornerstone of any successful ecosystem distribution for insurance products.

Potential Challenges for Insurers

Insurers are in a precarious situation as Southeast Asia's large platform companies take hold of the insurance-customer relationship. Recent studies have shown that customers in Asia are increasingly willing to purchase insurance from big technology firms. Additionally, a recent report points out that the ASEAN region's e-commerce business will more than triple from \$72 billion in 2018 to \$240 billion in 2025, driven by increasing mobile penetration and a tech-savvy middle-class population, which are the main drivers for insurtech as well. If this happens, incumbent insurers could become mere commodity producers for the powerful distribution channels if they do not adapt; and there are some major hurdles to overcome if insurers are not to fall behind.

Chief among these challenges is the technological gap. To take part in the new platform world that is nurtured by data and lives on modern, agile and integrated technology, insurers cannot rely anymore on the distribution channels approaching them for integration. The new platforms are—for now—focusing on adding value for their customers rather than targeting the exorbitant upfront commissions that have nearly become the standard for long-term bancassurance distribution agreements. Insurers have to pay and, generally, also provide a digital insurance distribution platform for the bank to integrate with its various digital front ends. The new ecosystem platforms are taking over this task, for the price of more competition to be paid by the participating insurers.

In the new high-speed technology-driven world, insurers that are prepared to and capable of integrating quickly with the modern distribution channels will be a far more attractive bet for platforms. A fast time-to-market is essential to the platforms' value proposition and insurers will need to learn to run as fast as the digital platforms if they are to keep up.

With exclusive deals hardly interesting for platform distributors that want to offer customers a wide range of tailored products, insurers need to think about their capability of integrating into multiple platforms. This additional level of complexity calls for a new approach to distribution. The rigid product- and channel-centric model

of integration will need to give way to central and modular management of covers, wording, pricing and underwriting rules. Agile channel-specific adaptation of products and pricing are a must for avoiding channel cannibalization and for staying in control of the crucial product strategy.

Finally, insurers traditionally created off-the-shelf products and then sought customers willing to buy them. In the platform world, customers are accustomed to products being tailored to their specific needs on the spot using a wide range of available data. A modular approach to insurance that is based on cover-modules, rather than generic products, will allow exciting, tailored products to be assembled in real time based on a customer's specific protection needs. Moving beyond the product-focused model demands both organizational and technological change. But becoming more agile is indispensable for the long-term health of any insurer in Southeast Asia.

The Race To Become Southeast Asia's Dominant Ecosystem

Southeast Asia, with a population of 650 million and manifold regulatory environments, is a highly diverse and fractionated market. In all likelihood, there will be a number of insurance ecosystems emerging in different markets and covering different insurance needs. The large number of contenders and the myriad of initiatives make predicting winners impossible at this time.

There are, however, some aspects that all successful ventures will share. First, leveraging on all available relevant data paired with a fast time-to-market for new products and an iterative feedback loop is perhaps the most important attribute of a successful insurance ecosystem. The first-mover benefit is amplified by the self-reinforcing properties of digital platform distribution.

Second, the width of the platform offering will be crucial. Platforms that manage to scale their onboarding process are in a prime position to cover the entire range of their customers' protection needs out of one hand. To benefit from the self-reinforcing properties, ecosystems need to reach scale.

Finally, there are several approaches to the technological development needed to realize an insurance ecosystem. Many of the recently seen partnerships have opted to build their own solutions from scratch. The deep pockets of the large tech players with armies of developers is taking the old build-versus-buy debate to a completely new level. In light of the track record of bespoke-built insurance integration projects, however, these bold projects come with substantial risks. Building an insurance marketplace without prior experience in dealing with the complexity of insurance distribution is hard.

Entering into a joint venture with an insurtech player, as Grab did with Zhong An, is another possible approach. The joint-venture model, however, comes with some inherent conflicts of interest. Platforms often have numerous partnerships with other platform providers, and building technology in a joint venture with one partner might scare off others, for fear of integrating into infrastructure partly owned by a competitor. Jointly investing with friendly platform peers (rather than competitors) into a co-owned

insurtech company is a possible approach.

By creating bespoke solutions, insurers and platform providers also risk investing time and capital into the next generation of legacy systems. Embracing the pay-per-use approach characteristic for the on-demand platform industry, a platform as a service model may provide a safer and faster approach. In this scenario, a distribution partner can stay tech-independent and simply use the best technology provider available without any strings attached. Already today, there are dedicated multichannel sales platform vendors that offer all the functionalities described above, as the recently published 2018 Gartner Hype Cycle report concludes. A partnership model will greatly reduce time-to-market, investments and risk of failure.

Despite all the challenges, both platform providers and forward-looking insurers are racing ahead. The prize to be won is to become Southeast Asia's predominant insurance ecosystem. In 2019, we will see the first insurance ecosystems—such as the Grab/Zhong An marketplace—rolling out, and by the end of the year, we may have a much clearer picture of who the winners will be of the digital insurance industry.

About Author

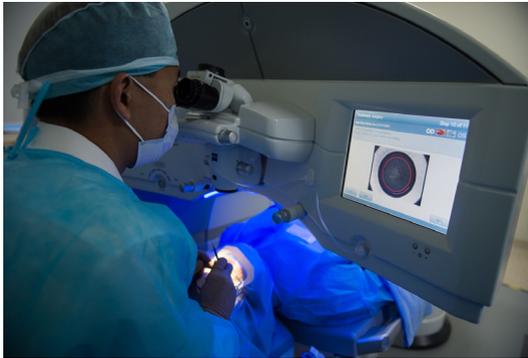


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How Disruptors Are Shaping the Future of Health Insurance

*Subhajit Mandal
Head of Products at Sympo and Founder & Board Member of
the Singapore Fintech Association LumenLab, Singapore*



The number of insurtech companies launched every year has been on the rise since 2008. What different innovative ideas are these budding entrepreneurs working on to create new businesses and services? A thorough look all around us provides the answers—the disruptive influence of innovation has started permeating through various aspects of our lives, and insurance is no exception.

To identify the potential for disruptive innovation, we need to look at multiple changes happening simultaneously. Similarly, in the area of insurance, the culmination of changes in disparate areas are coming together to create something completely new.

There are four specific changes happening around the world—and in most parts of Asia—that will have a drastic effect on the insurtech industry: data ownership policy changes, the digitization of health data, blockchain and mobile technology.

Data Ownership

With the recent uproar around data ownership, the EU General Data Protection Regulation has been a focal point in discussions. Countries such as India, which has over a billion people with digital identities, are also working on creating new frameworks of data ownership. These new policies are clarifying the concept of “ownership” of data and reinforcing that customers own their own data.

Although conceptualizing this is common sense, this simple notion that customers own their own data has far-reaching consequences. The most significant

impact for insurtech lies around health data. Hospitals, in the absence of this black-and-white rule around data ownership, have not been required to allow customers access to their own data until now.

The cyber-insurance segment of the market has benefited greatly from this new focus on data privacy and is one of the fastest-growing insurance segments. At most times, cyber insurance covers the breach of data, but it is still largely an area with several unknowns. Warren Buffett, for example, is of the view that nobody in the industry really knows the extent of risk involved, and has said, “I don’t think we or anybody else really knows what they’re doing” when they are writing cyber insurance. However, there are insurtech startups such as Boxx Insurance and At Bay that are braving the unknown and looking to capitalize on this new drive of data privacy and security and its impact on people’s need to have some kind of insurance as a safety net.

Digitization of Health Data

About two decades ago, the U.S. made the digitization of health data a priority. However, this has just started picking up steam in developing countries. In this part of the world, Singapore is one of the few countries that has a centralized database of digitized health records for all its citizens. Without digital health data, the concept around data ownership has no implications. Hospitals had processes in place where consumers could queue up, fill out a form, pay money and retrieve their own past health records. Now hospitals’ IT departments are forced to consider systems that will allow customers and other companies (on customer approval) to access customers’ health data.

For example, an MRI scan from two years ago, is available for retrieval now. However, customers are still sitting on the fence on this one. They understand that this seamless flow of data between doctors and insurers helps their cause, but they are still unsure about the safety and security of their health information, given that the sector has seen its share of data breaches in the recent past.

It is not surprising, therefore, that data digitization, including security, and insurance is potentially the biggest area of work for startups, with companies such as Innovaccer in the U.S. and Vivant in India active in this space.

Blockchain

Blockchain is particularly great at forcing new technological architecture. It could result in a scenario where there are no more centralized databases, but a distributed ledger that verifies all transactions independently, thereby reducing fraud.

When it comes to customers, however, addressing concerns of access control mechanisms around their health data is an important key to the changes being seen. Potentially, blockchain architecture could be used to ensure that health data access logs are immutable. Actual health data storage and security will have no blockchain dependability, but time-bound access provided by users to different entities to access user health data could be implemented using blockchain. Needless to say, all insurtech

startups are dependent on blockchain.

This area has seen relatively less work compared to others, as the areas of interplay between insurtech and blockchain are still evolving. Notable players in this space are B3i in the reinsurance space and PokitDok.

Mobile Technology

The mobile phone that fits into a pocket and on which this article is likely being read, has more power than even the computer that helped take man to the moon. Smartphones have become ubiquitous globally—they are as common a sight in the hands of a trader on Wall Street as in those of a “tuk tuk” driver in Cambodia.

The pervasiveness of mobile phones allows for the better understanding of customer behavior through web use and online searches. Applications of all kinds are housed on a single device, providing valuable insight into user habits and preferences. Therefore, the mobile phone, when put together with the above three trends, gives us a peek into what is possible in the future.

The Future

Now imagine yourself as a user who needs health insurance. All your health records since birth, including from different health care providers, are collated and stored on the mobile phone. Now, the insurer, instead of asking you to fill out a lengthy health declaration form, sends its risk algorithm to your phone. This risk algorithm does all calculations of insurance risk classifications on your phone based on the digitized health data stored on the phone and almost instantaneously provides your risk premium for your insurance policy.

Since all calculations have happened on your phone, data privacy is completely ensured, although whether it is completely secure still depends on whether the phone’s security can be breached. Since all calculations were done using the blockchain technology that is part of your mobile phone, the authenticity of the calculation is confirmed, and there is no chance of any fraud. And within seconds, you have a customized risk premium quotation tailor-made for you.

When Is This Future Due?

This future is quite far away, as blockchains don’t run on mobile phones yet. Separately, all health data are not digitized, and although privacy policy gives users the right to their own data, health care providers, such as hospitals, are not API-ready just now. That said, we are seeing change at rapid pace, and corporate innovation labs and insurtech startups such as Symbo are trying to push the envelope on some of these pieces.

There is an aphorism in the venture investing world that we tend to overestimate the change that we’re going to see in three years’ time and have a propensity to underestimate the magnitude of change that we will see in 10. The truth perhaps lies somewhere in between. Given the pace of change being witnessed in technology and

in how technology is being used in insurance, it is near impossible to put a timeline to developments. While it may take a few years, this future will be realized, and businesses—startups and incumbents alike—must prime themselves to capitalize on it.

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As head of Products at Symbo, Subhajit leads product management efforts across all lines of business, with a deep focus on customer experience. Before this, Subhajit was a director at MetLife Innovation Centre (LumenLab) in Singapore, covering LumenLab's fintech initiatives across Southeast Asia and launching Vitana, a first-of-its-kind blockchain-enabled health insurance within the MAS Sandbox.

A New Model for Financing Urban Planning in Asia

*Kathleen Farrin
Economist, Economic Research and Regional Cooperation Department
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Cities are often lauded for being innovation hubs, places where connectivity encourages the flow of ideas and people. But as Asia urbanizes at an unprecedented rate, the people seem to flow faster than the ideas on how to fit them all—sustainably—into their new metropolitan homes.

If you work in Jakarta, you might travel 60 kilometers (37 miles) one way to get to the office. In metro Manila, you could spend 1,000 hours a year in traffic. In Bangkok, you are going fast if you're able to drive 20 kilometers per hour.

Mass transit systems in the region are, for the most part, underdeveloped and under-equipped for growing urban populations. So how can we steer urban planning and infrastructure investment to turn cities from congested to comfortable?

The Dearth of Financing

What we know for sure is that financing—or a lack of it—constrains investment in quality transport systems in Asian cities.

A recent ADB report covering 45 developing economies in Asia and the Pacific concluded that to maintain growth, the region would need to see an investment of \$22.6 trillion in infrastructure between 2016 to 2030.

The infrastructure investment gap—the difference between the investment needed and what is currently being spent—averages 2.4 percent of projected GDP. The gap is almost 5 percent in Indonesia and more than 6 percent in some countries in the Pacific.

A dearth of funds for infrastructure investment translates to urban planning bottlenecks. It discourages coordination between transportation, land, and planning

entities, whose cooperation is necessary for the development of well-planned cities, but whose competition for funds may prevent any such symbiosis.

The need for innovation in public financing of urban infrastructure projects is staring us in the face.

Enter Land Value Capture

Last year, experts from China, India, Indonesia, the Philippines, and Thailand came together at an ADB workshop to kick off a study on one such innovation: land value capture (LVC).

LVC hinges on a simple concept: Infrastructure adds value. This is particularly the case for areas undergoing rapid urban growth, where infrastructure development—such as improving transport connectivity—drives up land prices, creating an opportunity to significantly raise revenues.

When the public sector secures the windfalls from its own infrastructure investment, it not only reduces the burden on municipal budgets, but can also advocate for sound urban planning so city growth maximizes social welfare.

When we talk about LVC, semantics often becomes an issue. The connotation of “capture” is one of a zero-sum game, where the government competes with private developers to grab as much added value out of public investment as possible. However, when the public and private sectors collaborate to innovatively finance urban development and well-planned cities, the result is net positive.

The Case of China

Take the case of Shenzhen, the first city in China to use the Rail plus Property (R+P) LVC model. R+P is also used in Hong Kong, Japan and Singapore and leverages partnerships between the public sector, transit companies and developers to coordinate planning and financing of new transit stations and adjacent real estate developments.

In Shenzhen, the government used traditional finance (municipal budget and bank loans) for the initial phase of its metro project and then switched to more innovative financing methods after project costs increased tenfold in the metro expansion phases. Flexible risk- and profit-sharing arrangements ensured that both costs and benefits were shared among the government and various metro companies.

The evidence of benefits suggests a win-win situation: Average home values within walking distance of metro stations increased by 23 percent at 400 meters and 17 percent at 600 meters. This speaks of the added value that residents gain from increased accessibility and increased revenues of property developers who have paid into the R+P system to help finance the public transport infrastructure.

Rebrand LVC to LVC+

Thus, a rebranding is in order: LVC as land value creation. While “creation” evokes the benefits of public-private synergy, it stops short of fully characterizing the benefits of the scheme.

“LVC+” is a better fit, as land value is created, shared and reinvested, spurring a virtuous cycle of urban infrastructure investment.

ADB supports the development of “livable cities” defined by the three pillars of economic competitiveness, social inclusion, and environmental friendliness. ADB’s Urban Operational Plan 2012-2020 stresses supporting the adoption of cutting-edge planning, technology, and financial products to shape the future of urban Asia.

By fostering public-private partnerships through LVC+, the public sector can invest in social inclusion and accessibility without sacrificing the efficiency of mass transit systems.

In turn, the private sector is incentivized to invest in quality of development—including green spaces and pedestrian zones—around mass transit so that returns are maximized and cities become more livable.

This piece first appeared in the Asian Development Blog.

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Kathleen Farrin is an economist whose research interests include poverty and inequality reduction, agricultural risk management, and rural development. Her work for ADB’s Land Value Capture study has widened her research portfolio to include urban topics. Prior to ADB, Katie worked on research and capacity building for Feed the Future countries as an agricultural economist at the U.S. Department of Agriculture.

Reducing Inequality in ASEAN with Blockchain

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The poverty rate in ASEAN has been reduced significantly, and the quality of life has improved for a vast number of the region's 625 million residents. The ASEAN reported in 2017 that since 1990, the region has seen a dramatic reduction in the proportion of the population who live under the poverty line, from 47 percent in 1990 to 14 percent in 2015.

Significant improvements in quality of life are also reported from other metrics, such as the employment rate, infant mortality rate, literacy rate and women's representation in education and government.

This rapid growth, however, has had undesirable consequences, including rising disparity, inequality and malnutrition. The wide development gaps in ASEAN are a warning sign to other fast-growing markets in the years to come.

Blockchain technology, however, presents a smart, contemporary solution to alleviate some of this disparity by virtue of its myriad benefits and applicability to a wide variety of industries. The vast potential of blockchain lies in its ability to secure inventory, track, automatize and transfer wealth over the Internet. In a nutshell, blockchain brings the possibility of a true sharing economy that is more efficient, transparent and secure.

Reducing Inefficiencies in Micro-Investment

An innovative bond system in Muslim cultures, called Sukuk, that is compliant

with Sharia's prohibition on interest allows bondholders to pay into a profit-sharing system that includes shares in a physical asset, from which they receive "profit." However, they have all generally had high issuance and operational costs that made them inaccessible to broader, less wealthy markets.

Blossom Finance, an Indonesian microfinance firm, for example, hopes to solve these problems with the classic Sukuk by using blockchain technology to streamline these processes, to lower costs and to open up these investment opportunities to more people. The bonds are fully automated to quicken issuances and transactions. Not only that, the company is also introducing social impact into its model by using the funding to initiate a local green waste disposal project and the expansion of a hospital.

Using blockchain for investment can break down systematic barriers that prevent many populations from investing safely and intelligently, thereby providing opportunity for many to reduce large economic wealth gaps.

Greater Transparency Restores Power to the Consumer

A large part of the benefit of blockchain is its ability to create more transparency up and down the supply chain and to easily track and record all transactions. Many different industries are picking up on this potentially game-changing benefit and coming up with solutions that not only result in empowering customers, but provide the companies more streamlined business processes, providing a win-win for all those involved.

One example is IBM's recent launch of its food-tracking blockchain IBM Food Trust, which allows small-, medium- and large-scale companies within the food industry supply chain to join the network and take advantage of cheap, fast and automatic tracking of ingredients at every level of the chain. This allows companies to pinpoint the precise location of issues that occur within the supply chain, and it allows customers to track back the precise farm from which the ingredient was grown and processed. This is a trend that is gathering steam and expanding rapidly, presenting an untapped opportunity for adoption in Asia and in developing economies globally.

Another example of adoption is in China, as a Chinese government agency outlined a plan in September to use a blockchain tracking system that tracks data on online donations and where they end up in an effort to increase trust and strengthen the heavily underdeveloped third sector in China.

Insurance for All

A new concept called microinsurance seeks to provide insurance to those with low incomes. From the insurer's perspective, however, this proves to be difficult as the practicalities involved with distribution and operational costs mean that the costs far outweigh the potential benefits of providing insurance to those with less to offer.

Blockchain solves these problems by heavily decreasing associated operational costs through automating payments and payouts. Smart contracts have the ability to automatically and instantly pay the insured when certain conditions are met, based on

a predetermined contract. To this end, Oxfam in Sri Lanka, a nonprofit organization aimed at eliminating global poverty, has teamed up with blockchain startup Etherisc to create a microinsurance option aimed at insuring local rice farmers. This is bound to rapidly expand the number of insured farmers in Sri Lanka, which will help support and protect their businesses from extreme weather events.

In a similar vein, Australian government agencies are working with the National Disability Insurance Scheme to create a distributed network blockchain that simplifies the claims processes for the insured. The system will not only automate payments and claims like the system in Sri Lanka, but will make it easier to meet the highly personalized payment conditions of each individual. Blockchain technology makes it easier to create personalized service and avoid the often-flawed one-size-fits-all model, saving a lot of time and money in the process.

Response to Criticism

In the industry, in general, and among many tech circles, there is a view that blockchain technology is over-hyped. And the reason given is that there is no killer app in the market yet solving a real problem for millions of users as of today. Additionally, there has been wide criticism on blockchain performance for a lack of user scalability and low rate of transactions per second.

However, the decentralized nature of blockchain architecture has truly great potential to disrupt and disintermediate the ways in which wealth is allocated, the accreditation and verification of people, things, and provenance and more in an open and transparent way. GlobalSouthTech, for example, is working on an Ethereum-based community crypto-token to align incentives for more quality cross-border partnerships between technology communities in emerging markets with a focus on blockchain projects that target the Sustainable Development Goals. And this is just but one example.

More broadly, technology at large in combination with blockchain can have a significant impact on alleviating poverty and addressing rising disparity across ASEAN and other emerging market regions, if effectively harnessed.

About Authors



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Adrian Avendano is the founder of GlobalSouthTech, a global community that links emerging technology communities around the world with the goal to generate successful cross-border expansions, partnerships, and investments. He has more than 10 years of experience in the technology and startup ecosystems of Latin America, Europe, and Asia.



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How Blockchain Can Rebuild Consumer Trust in Insurance

*Arup Kumar Chatterjee
Principal Financial Sector Specialist,
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Insurance, which plays a critical enabling role in wealth creation and economic growth, seems to lack the trust of Asian consumers. Unfortunately, it doesn't seem like this will change anytime soon.

Lack of trust plays a part in the region's extraordinarily high levels of underinsurance. Without the ready availability of insurance products and services to all segments of society, the economic progress made by individuals and households in developing Asia will remain tenuous.

Blockchain Benefits

However, the advent of new technologies could help to restore consumer faith in insurance products. One of them—blockchain—has the potential to impact the entire insurance value chain end to end.

In fact, harnessing the power of blockchain could transform the way insurers create products, making them more relevant and appealing to the next generation of policyholders.

By creating new gauges of trustworthiness as well as disrupting the existing trust protocols, it promises to provide a secure, transparent and verifiable mechanism to execute transactions—replacing the traditional notion of utmost good faith with provable good faith.

Furthermore, blockchain can considerably reduce both operational costs for financial institutions and the number of service providers.

Blockchain can have far-reaching effects on insurance claims. A good example is the smart contract, a computer code running on top of a blockchain containing a set of rules under which the parties agree to interact with each other. The agreement is enforced automatically once the predefined rules are satisfied, so the code facilitates, verifies, and enforces both negotiation and performance.

Blockchain can even help lower costs. Smart contracts allow secured data to be easily accessed and shared without time-consuming data entry or lengthy verification. It can also enable efficient sharing and matching of information.

For instance, 15 insurers recently kicked off India's first blockchain project, allowing health insurance providers to access policyholders' medical examination information, thereby facilitating swift yet secure data exchange.

Another advantage is secure data storage and retrieval. With blockchain, policy

documents can be stored on multiple digital ledgers, so all are available for amendment and evaluation, but they can never be altered or lost without the parties' agreement. They also securely streamline legal and contractual procedures.

Finally, the insurance industry has struggled to manage claims and combat fraud without jeopardizing its own image. Blockchain can help insurance firms create a public, tamper-proof database to track ownership and transfer of assets. It can also be used to authenticate police reports, purchases and other documents.

After inputting the claim details, a smart contract can verify valid claims, detect any malicious activity, such as multiple claims for a single accident, and pay out against the occurrence of an insurable event without having to manually make or process a claim.

For instance, with a personal accident insurance policy issued on blockchain, a beneficiary can go to an authorized doctor, get treated and have the claim managed in real time, rather than sending photocopied documents and waiting months for reimbursement.

Blockchain is helping rebuild trust between insurers and policyholders via improved customer experience, higher scrutiny of affordability, and product innovation.

A good example is pay-as-you-go insurance or usage-based insurance (UBI), which interprets the number of miles one drives and adjusts the premium rates accordingly.

UBI encourages people to drive less and drive safer for availing lower premium rates—a win-win for both insurer and policyholder. Blockchain could popularize UBI products by storing collected data from vehicle sensors in the blockchain, thus lowering costs for drivers and providing insurance companies with complex, protected consumer data. Blockchain-enabled UBI could thus determine the right amount of coverage based on a person's lifestyle.

A novel application is in disaster relief. Blockchain can't prevent natural calamities, of course, but it's now a leading solution to disburse insurance claims post-disaster in a transparent way when millions of people are struggling to get back to normal.

By leveraging blockchain, ADB's developing member countries can expand financial inclusion to increase the productivity and earnings of small enterprises.

Insurers Need To Embrace Blockchain Quickly

For instance, Zhong An, a property insurance company in China, sells all its products and handles claims online. It has recognized the massive potential of the rural financial market and realized how risky and costly it is to finance the agriculture sector due to lack of risk-accumulation data.

Putting in place a robust authentication and traceability system can generate better data and reduce risk for companies that finance and insure farms.

The firm's tech incubator—which focuses on financial technology applications such as blockchain, artificial intelligence, cloud computing, and big data—is currently

piloting a facial recognition and blockchain system for organic chickens called GoGo Chicken.

The system allows consumers to preorder a chicken and then watch it grow remotely, with data such as number of chickens being raised and their mortality rate. It's an anti-counterfeit traceability solution that also reduces the risk-control cost for financial institutions and encourages insurance companies to underwrite farmers and their breeding assets.

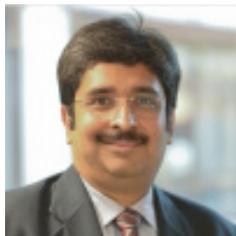
The Gogo Chicken project has the potential to significantly expand agricultural and health insurance in China and beyond. This technology is expected to extend to fish farms, pigs, and other livestock, as well as to crops such as tomatoes or watermelons.

Blockchain can likewise dramatically improve pension funds' operations and significantly reduce operating costs. Smart audit contracts ensure full transparency and compliance with fund rules and allow calculations for contributions, employer matching, and benefits. Other advantages are selection of investment profiles, registration of beneficiary designations (in case of death), administrative fee calculations, and portability between funds.

While blockchain's potential benefits in insurance are apparent, it's still uncertain where the technology will have the most significant impact. Insurers need to move quickly to gain experience with blockchain and gauge how it can be applied to solve real problems, particularly by improving access to finance.

This piece first appeared on the Asian Development Blog.

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With over two decades of experience in this area, Mr. Chatterjee is responsible in his current role for leading financial sector development initiatives in the areas of insurance, private pensions and contractual savings, and financial inclusion.

Previously, he worked at the Bank for International Settlements in Basel, Switzerland, and the Insurance Regulatory and Development Authority in his native India.

How Can ASEAN's Insurance Industry Navigate Disruption?

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The current period of digital disruption is rightly described as a revolution—the Fourth Industrial Revolution—because of the scale and intensity of change. This change is destructive to existing structural constants, whether business models or wider societal organizations, and requires deliberate leadership response.

Several industries have already been disrupted beyond recognition, including how we book our flights and hotels and how we access content—music, video and news. Even the nightlife business in the UK has been dramatically affected by dating apps. Banking, as an adjacent industry to insurance, has had a headstart with fintech and can offer some lessons. The traditional insurance companies, the incumbents, are buffeted by at least three forces:

- Changes in customer behavior and expectations brought on by technology
- Regulations that require greater capital and more regulatory reporting
- A challenging macro investing context and a dearth of long-term investable assets

The ASEAN life insurance industry manages assets of \$438 billion. This will increase substantially as premiums grow in the years to come. However, it is estimated to distribute only 2 percent of these assets to infrastructure. If the community commits to increasing the share of assets allocated to infrastructure, this will make a significant contribution to the ASEAN infrastructure financing gap.

Below are seven steps that incumbent insurers can adopt to respond to and harness the forces of the Fourth Industrial Revolution.

New Reality

The first step is to acknowledge the dramatically changed context. Previously, growth used to be about increasing market share. Companies pursued the same methods to target the same set of competitors in the same market. That kind of linear approach doesn't work anymore. We need to look at the entire value chain, from product development to marketing, distribution, claims management and the feedback loop back to product development.

We need to embrace and assess the current lines of attack and appreciate the fact that we could come under attack. We cannot afford to be blinkered by the belief that traditional barriers to entry (a high capital base or a long-standing brand name) will continue to protect against competition. Thankfully for ASEAN, the existing market is underserved and under-covered. Insurance takeup is still a small part of a growing middle class, so the avenues of top-line growth are nowhere near being exhausted.

ASEAN also provides opportunities on the investment side. Both authors have served on the World Economic Forum's Global Future Council on Long-Term Investing, Infrastructure and Development. Infrastructure needs in ASEAN's real economy should create avenues of returns for the region's life insurance companies. The ASEAN Insurance Council (AIC), a regional platform for the insurance industry, has issued a major call-to-action to insurers to help accelerate infrastructure investment.

Following the call, leading insurance companies WanaArtha Life, AIA, Allianz Life and Taspen signed a strategic agreement to invest \$224 million in an Indonesian state-controlled toll road operator, Jasa Marga, through PT Mandiri Manajemen Investasi. The call was made in conjunction with the IMF-World Bank Group 2018 Annual Meeting in Bali, where AIC had a speaker at a discussion about infrastructure financing.

So relatively speaking, ASEAN has room to grow old lines of business more efficiently, by using new IT productivity tools and by digitizing existing processes. But that's just a first-order and short-term response. A durable response must recognize that the Fourth Industrial Revolution is much more than digital efficiency. The second-order response requires a fundamental revamp of the value offering and a redesign of the ecosystem.

New Focus

The new reality also requires a new focus on the customer at the center of our activities. Our design process should revolve around the customer journey, the customer environment and the customer experience. Over recent years, the customer's daily life has changed. In Shenzhen, for example, you can buy fruit from roadside sellers using QR codes. Contactless payment is used for virtually everything, even for donating to street performers.

We used to think that a banking app competes with the customer's experience of walking into a bank branch. That was not the right comparison: The app has to compete for convenience and look-and-feel with other unrelated apps that the customer

is already toggling on their phone. Many of these apps allow facial recognition or “one-click” action. Motor insurance claims have to be processed instantaneously using image and video recognition. For too long, regulations have helped established banks ignore customer convenience, as switching bank accounts was extremely onerous. Now pro-innovation regulations—such as the sandbox program in Singapore—are helping startups compete with customer services as a key design feature.

New Approach

Central to the digital response is data, both public and personal. There’s a lot that can be done with publicly available aggregated data—data about the weather, for example, or about crop performance or about the spending habits of anonymized cohorts of people. It can help us thin-slice the insurance offering. For example, you can now buy insurance for a trip just as you are about to take off. It is valid for a specific location and for a specific duration, and as soon as the trip is over, the policy is over. Micro-insurance in bite-sized pieces is now feasible in a way that it wasn’t in the past.

In addition, there is personal, private data. With appropriate consent and the right ethical framework, personal data allows for extreme customization (“segmentation of one”) and gamification (where certain behaviors are rewarded with discounts). Data about driving patterns, grocery shopping and exercise habits can be used to fine-tune insurance premiums.

New Value

Data analytics should enable the creation of genuine new value to the insured, so that it justifies margins paid to the insurer. This new value is created mostly in the form of reducing or preventing risk during the life of the insurance contract. For instance, the device in my car monitoring my driving pattern can make suggestions that improve my driving style—for example, the speed at which I tend to approach roundabouts. Value is created in risk avoidance, and there is no reason why today’s insurers cannot have a revenue line built around that. Value is also created in making insurance more inclusive. Technology, coupled with alternative forms of peer-to-peer or mutual insurance, could enable previously uninsurable groups to gain coverage.

New Risks

New sources of insurance revenue could come from new risks that have opened up as a result of technology. The Internet of Things creates closely-coupled complex systems. The demand for cybersecurity at various operating levels will only grow in significance.

New Competition

Today’s established players must anticipate competition from unexpected sources. Insurtech startups aim to cherry-pick businesses that are profitable, leaving aside pieces that large organizations carry as loss-leaders. One approach is to embrace

startups. Recently, Aviva took a majority stake in Neos, a “smart technology” provider that lets customers monitor and protect their homes through connected devices—for example, by alerting them at work if a tap at home is starting to leak. Several banks host and sponsor fintech competitions, occasionally collaborating with contestants.

However, it is not just small upstarts that pose a competitive threat. Large tech-driven marketplaces such as Amazon or Alibaba provide aspects of payment and banking services. As distributors of third-party products or as cloud-based providers of back office services, these platforms can claim informational advantage and directly provide online insurance. Other players, such as car companies or manufacturers of sensors, can also claim some informational advantage in the provision of insurance.

Platform-based insurance can also have a disruptive pricing model. Mutual insurance products do not require any upfront payment of premiums. Some value the entirety of their platforms as a bundled ecosystem. In the same way that a club may offer discounted drinks during happy hour to build critical mass, insurance can be “thrown in” as a loss-leader that enriches the data in the network.

Insurance companies must look at every product line as an ecosystem. There is a health care ecosystem, as there is a real estate ecosystem and transport ecosystem. The consumer looks at health care as a process ranging from online diagnoses to video consultation to digital prescriptions and delivery of medicine. Similarly, when it comes to renting or buying property or a car, the consumer looks for end-to-end service. Increasingly, insurance must be nested within that process, rather than being a stand-alone product.

New Organizational Culture

In a world of constant change, nobody has a monopoly of ideas. Organizations with a large headcount have a “wisdom of the crowd” to tap on. This should provide scale in organizational learning that is not available to a small startup. However, this advantage is only valuable if the organization engages its people in a deliberate and nonhierarchical manner. Without an operating culture that promotes creativity and experimentation, organizations forgo speed and agility, which are the hallmarks of success in the Fourth Industrial Revolution. Companies should also update their key performance indicators to reflect aspects of the customer experience. Every case can be tracked like a courier package, and every encounter can be rated, as on TripAdvisor or Uber.

Finally, a key differentiator of organizational culture is its ability to execute on change while maintaining successful pre-existing businesses. At least for a temporary period, it is important to manage initiatives around running the firm separately from those around changing the firm. The tone at the top, ideally from the CEO, and allocation of resources must support new ventures and reinforce the direction of travel.

This piece first appeared on the World Economic Forum Agenda.

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Why Aren't Tech Companies Paying Us for Our Data?

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We live in an unequal world where the gap between the rich and poor is widening. As the Fourth Industrial Revolution transforms our world, it is more important than ever to embrace the challenges of automation and the major disruption it will cause the labor market.

According to The Future of Jobs Report, around 75 million jobs may be displaced by a shift in the division of labor between humans and machines. Many fear that artificial intelligence systems will replace human workers who currently carry out routine tasks.

That creates a risk of an even more unequal world, where only the people with sufficient technical abilities and access to basic digital education can thrive.

Disruptive Ideas Needed

To find solutions to this problem, we need disruptive ideas. So, how about creating a universal basic income that could reduce the risk of exclusion? What if this universal basic income is based on our data?

Nowadays, we practically give our data away free of charge to the big tech companies. They use our data to create more personalized products or services for us, but their real business is commercializing it.

So, we need to ask some important questions: Who does data really belong to, who is the owner of the data, and why don't we get paid for it?

Every single day, humans produce a huge amount of data; about 2.5 quintillion bytes' worth, according to technology writer Bernard Marr. Google processes over 40,000 searches every second, and around 1.4 billion people use Facebook every day. Every minute, 16 million text messages are sent, 154,200 calls are made on Skype, 990,000 Tinder swipes happen, 156 million emails are sent, 45,788 trips occur on Uber, and 600 new pages are created in Wikipedia.

Who Are the Real Winners?

This growth of data creation is expanding as we use more and more devices with the Internet of Things. In recent years, we have created more data than all human history combined.

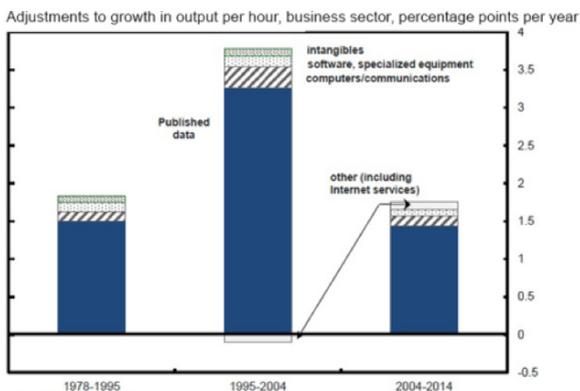
Despite this amazing production of data, the producers of the data—we, the people—receive no value for it apart from some “free” services, like Facebook, which, in reality, works to gather yet more data. The big tech companies are the real winners in a free data world, and that could create a more unequal world at a time when we need

inclusive capitalism.

Research on productivity in the U.S., by David Byrne and John Fernald from the Federal Reserve and Marshall Reinsdorf from the IMF, found that a purely free data economy acts as a drag on productivity growth, which continues to lag worldwide despite the hopes of AI potential. Something must change in order to boost inclusive growth.

The current rate of productivity is similar to earlier periods

The fast-growth period from 1995-2004 was an anomaly, thanks to the Internet, reorganization of distribution sectors, etc.



Boosting Inclusive Growth

Moreover, anxiety about future job losses in a digital economy creates resentment about globalization and institutions, which tends to stimulate populist movements to both the right and left. These movements exacerbate nationalism, close borders, and are against free trade.

These are important social and political risks that need to be tackled with an inclusive solution.

The Fourth Industrial Revolution requires tons of data for the business models of the future. Machine learning, AI, and more sophisticated robots and machines all work with data previously created by humans. They need data to learn, get better at what they do, and became a product or service with commercial use.

However, nowadays a real incentive does not exist to contribute to creating high-quality data to empower all these technologies and maximize the potential of the digital economy. Today, only a few users are aware of the productive value of their data and the role they play in the machine learning market.

As we advance in the Fourth Industrial Revolution, data will become an even more valuable commodity. This information and digital economy is built on data; many AI systems depend on active participation by humans to generate relevant data.

Could a UBI Work?

So, how can we find a solution that breaks the current paradigm of a world where data production is free to create a more inclusive, ethical, and transparent model? Universal basic income based on the data we produce could be the answer.

This idea was first conceived by Jaron Lanier in his 2013 book, *Who Owns the Future?* In the book, he criticizes the tech industry for accumulating and evaluating consumer data without acknowledging a monetary debt to the people for all this free information they create and give.

He also argues that the lack of targeting of incentives undermines market principles of evaluation, skews the distribution of financial returns from the data economy, and stops users from developing themselves into “first-class digital citizens.”

Eric Posner and Glen Weyl argue in their 2018 book, *Radical Markets*, that paying people for data would raise U.S. household median income by \$20,000,—a bigger increase than the uplift in the post-war era.

To create a universal basic income of data, the data we produce needs to be valued for what it is, i.e., labor. But in order to work, there are some questions that need to be answered.

1. How can data be fairly and effectively valued?
2. Who will negotiate the basic income for the data?
3. With data becoming actual labor or income, how will we protect it from theft?
4. How can labor payments from the companies that use the data be enforced?
5. What is the role of government in this new market?

It is time for economists, policymakers, entrepreneurs, and academia to start finding the answers to these questions and embrace this solution as a real possibility for a more inclusive future for capitalism.

If this idea is implemented, data, along with AI, will be viewed as a new source of well-paid jobs and income supplements, rather than as a threat to the people and workers.

The value of the digital economy would be shared among citizen producers of data, creating a fairer economy for all. A new era of economic growth and technological development could be reached.

This piece first appeared on the World Economic Forum Agenda.



About Author

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Asia On Track To Claim Fintech Supremacy from the U.S.

BRINK Asia Editorial Staff

Global venture capital-backed fintech investment reached an all-time high in 2018. Fintech companies backed by venture capital secured \$39.57 billion in 2018 across 1,707 deals globally. While the number of deals increased by 15 percent year over year, deal value surged 120 percent, according to a recent CB Insights report.

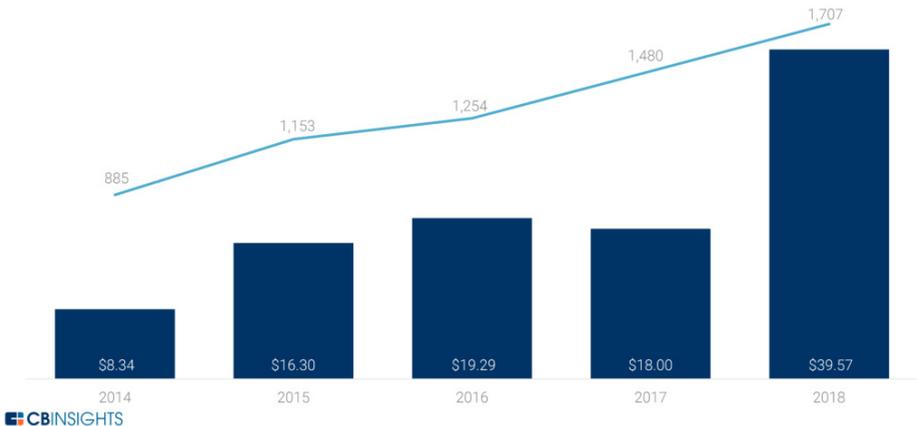
The number of unique fintech startups that secured funding touched an annual high of 1,463 companies, while the number of total unique investors was 2,745, supported by a rush of corporate investors.

The U.S. retained its position as the top fintech market with 659 investments worth \$11.89 billion in 2018, but Asia was close on its heels. Asia registered a surge in early-stage and mega-round investments and witnessed the biggest boost in deals—growing 38 percent YOY. Fintech companies in Asia were also recipients of record levels in funding, securing a massive \$22.65 billion spanning 516 deals. In fact, Asia is likely to surpass the U.S. as a center for fintech investment in the near future, according to the report.

FINTECH DEALS AND FUNDING SOAR TO NEW RECORDS

Global fintech investment tops \$39B in 2018

Annual global fintech deals and financing, 2014 – 2018 (\$B)



Early-stage deals, however, fell to a five-year low. This was due to investors' preference for perceived gainers, according to the report. In addition, global seed and Series A fintech deals recorded a 5 percent increase on an annual basis in 2018, but

fell as a percentage of total deals to 57 percent. In the case of the U.S., early-stage deals were flat YOY, as investors prioritized their focus on already established fintech unicorns (companies with a valuation of \$1 billion and higher). “Europe saw a pullback in deals to 367 deals, but funding topped \$3.53 billion, an annual record,” the report notes.

Fintech in Southeast Asia Is Heating Up

2018 was a record year for deals and funding in Southeast Asia—an increase of 143 percent YOY. The number of funding deals in the region increased from 19 in 2014 to 68 in 2018. In general, Southeast Asian fintech startups are attracting higher funding and foreign investors, according to the report. The largest recipient in 2018 was Vietnam-based fintech major Momo, which secured \$100 million in Series C funding from Warburg Pincus. China’s Ant Financial (an affiliate of the Alibaba Group) is seeking to aggressively expand its reach in Southeast Asia. Ant provides a suite of financial services spanning payments, insurance, credit, wealth management and others through various subsidiaries. Ant Financial alone made investments worth \$14 billion—accounting for a whopping 35 percent of total investment in 2018.

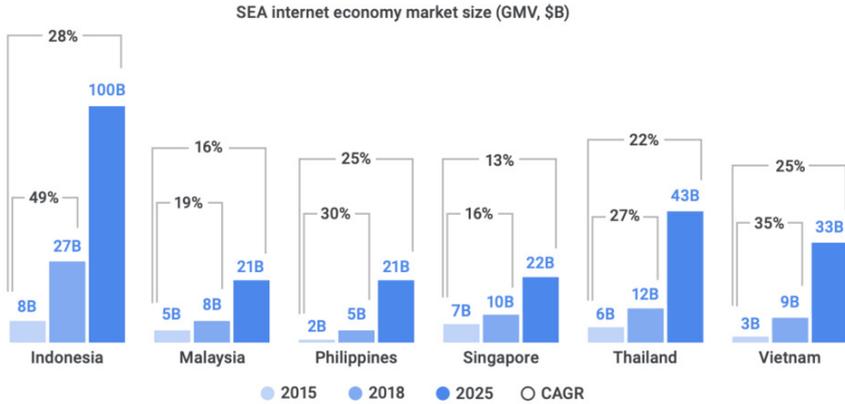
Fintech in Southeast Asia is heating up with record year for deals and funding, up 143% YOY



Indonesia Abuzz with Fintech Activity

Within the ASEAN region, Indonesia features the largest, as well as the fastest-growing Internet economy. In 2018, the total size of its Internet economy was \$27 billion, having registered a 49 percent CAGR between 2015 and 2018. This upswing is projected to further continue based on recent data from Indonesia’s leading e-commerce player Shopee. “The platform recorded 63.7 million orders, or a daily average of 700,000 orders, in Q3 2018, and reached 12 million orders on Indonesia’s National

Online Shopping Day in December,” the report highlights.



Currently, Indonesia offers a conducive environment for investment. In no small measure, this is on account of a young and upwardly mobile population of 264 million. Fifty percent of its population is under the age of 30 and mostly upwardly mobile. Separately, Indonesia is expected to have the third-largest middle class population among emerging markets by 2050.

Smartphone penetration in Indonesia is forecast to witness continued growth with an estimated 50 percent of its population expected to own a smartphone by next year. As such, there is immense potential in the digital economy domain, which also ushers in opportunity for digital transformation in financial services.

Where Are Fintech Firms Headed?

Fintech startups are looking to serve as substitutes for the old order of financial services firms, and, indeed, in many areas they are complementing the products and services that are already on offer. They are also leveraging regulatory norms, although navigating the web of disparate regulatory frameworks is not always easy. That said, globally, regulators have been paving the way for easy access to enable disruption in the financial services sector and to encourage competition.

The investment numbers for 2018—a record year—suggest that “fintech will continue its upward tear,” according to CB Insights. “With more areas ripe for fintech disruption, more technologies emerging and more fintech deal hubs materializing across the world, 2019 could be an exciting year.”

Balancing Fintech Risks and Opportunities in the Asia-Pacific

Cyn-Young Park
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James Villafuerte
Economist at Asian Development Bank
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The Asia-Pacific region continues to embrace advancements in digital technology that are shifting financial services from a traditional banking approach toward decentralization and disintermediation of economic transactions. Fintech has accelerated the leveraging of mobile Internet access, cryptography, distributed computing, big data, and artificial intelligence. This has ushered in innovative applications across services, such as payments, saving, borrowing, risk management and financial advice.

Financial Innovation in Asia

While developing Asia has grown rapidly, its financial systems are still relatively less inclusive. The rapid spread of fintech offers great opportunity to reduce the cost of financial services and promote access to finance, hence profitably boosting financial inclusion and enabling large productivity gains. The developments have also created new challenges for policymakers and regulators to understand disruptive forces in financial products and services, as well as to identify risks.

Digitization has been accompanied by decentralization and disintermediation. Distributed ledger is an example of decentralized services, and its applications include crypto-coins and smart contracts. New technology-driven business models, such as P2P platforms and robo-advisers, have also supplanted some traditional financial

intermediaries, posing distinct challenges for incumbents and regulators.

Asian economies—particularly China, Japan and Korea—have become the leading players in global fintech innovation. In 2018, East Asia became the most active area in the world for filing fintech patents, while China, India, Japan, Korea and Taipei, China, contribute a combined 72.6 percent of fintech patents globally. China leads globally in terms of patent filing, and its share of global patents increased from 30 percent in 2013 to 56.2 percent in 2018.

The application of mobile Internet access to payment services is the most innovation-active area, while the use of artificial intelligence, big data, and distributed computing to transform traditional banking services is also popular. Based on the analytical framework of fintech proposed by the IMF in 2017, which includes technology and financial service dimensions, the patterns of fintech innovation between the world and the Asia-Pacific sample are similar.

Payments technology is still growing strongly after decades of development. In recent years, much attention and investment has been drawn to Asia, where mobile payments could help many people, including those in rural areas, access affordable financial products and services—transactions, payments, savings, credit and insurance.

Besides mobile payments, more recent high-growth fintech segments include P2P lending, savings and investment advice. In Asia, except for patents related to cryptography technology, other categories make up more than 50 percent of the global share of fintech patents.

Exhibit 1: Number of Fintech Patents in Asia-Pacific

Technology		Financial Services				
Foundations	Innovations	Pay	Save	Borrow	Manage Risks	Get Advice
Artificial intelligence Big data	Machine learning Predictive analytics	3,438	3,274	2,870	2,123	103
Distributed computing	Distributed ledger (blockchain)	5,751	5,364	4,789	3,244	214
Cryptography	Smart contracts	605	439	426	276	24
	Biometrics					
Mobile Access Internet	Application programming interface	43,604	33,360	30,907	20,863	1,266
	Digital wallets					

Source: ADB staff calculations based on patent data from Relecura

Fintech innovations are emerging not only from technology startups, but also

from manufacturers, large commercial banks and incumbent computer and software companies.

Large tech companies look suited to entrench their positions and create competition for fintech startups. Payment services, as the most mature category of fintech services, gather a large amount of customer data that can be used by providers of payment services to leverage their positions. Firms with an established place in the market, such as Alibaba and Tencent in China, have a strong incentive to lock in customers and use payment services as the starting point to sell other services.

Implications and Challenges

Based on these trends and developments in the Asian fintech space, the implications and challenges related to financial innovation in the region include the following.

- Fintech has the potential to improve and promote more inclusive finance in Asia. Meanwhile, it will transform the entire financial system, from money to infrastructure to fundraising, which requires careful analysis of underlying risks to financial stability.
- Fintech brings industry concentration in a market dominated by a few large companies. Competition policies and better allocation of resources are needed to avoid the monopolistic tendencies of technology giants and prevent abuse of market power.
- With machine learning and predictive analytics based on big data and artificial intelligence being applied to various financial services, data are more vulnerable to security breaches. Cybersecurity, privacy, know your customer and consumer protection issues associated with fintech are critical.
- As changes in the financial sector accelerate toward the digitization, decentralization and disintermediation of economic transactions, money laundering, terrorist financing and competition issues also require actions from regulators.

Key Policy Issues

Central bankers, regulators, government agencies, and international financial institutions in the region are faced with three key policy issues.

Managing technological innovation to promote greater financial inclusion. New technologies have dramatically mitigated asymmetric information situations and reduced transaction costs to provide better financial services to underserved populations and companies. Despite the various technological advancements, 2 billion out of the world's 7 billion do not have access to financial services, and half of them are in Asia. How can it be ensured that fintech innovations assist SMEs and people currently excluded from financial services, helping them to enjoy the growth benefits of the digital technology? How can digital infrastructure be developed to reach the remotest communities?

Developing the ecosystem to support the creation, diffusion and scaling up of

technology and innovation. The rationale for government interventions largely stems from the idea that private actors will undersupply innovation. This argument leads to the assumption that subsidizing the private sector in some way will help solve the problem. From a Schumpeterian perspective, the policy response can be led by developing national innovation systems that form an environment necessary and sufficient to forge a strong relationship between firms, public labs, government ministries, financial players, patents and educational systems.

In the case of fintech, early evidence suggests that the private sector has provided enough innovation, with little need for government subsidy. But it is evident that strong economic environments and institutions play important roles in forging links between financial and technology firms. What sort of institutional support, guidelines on contract enforcement, competition policy, or market structure would encourage the creation of these linkages?

Strengthening the role of central banks and financial regulators in managing risks and developing the regulatory environment to protect consumers and balance innovation and financial stability. At the macro level, technology can be a transmission mechanism for contagion as well as an important source of systemic problems. At the micro level, poor governance or process control can increase the risk of direct disruption to financial services provision. There are also operational risks, such as susceptibility to cyberattacks and reliance on common online platforms.

In this context, what role do central banks and financial regulators have to play? And how can governments protect consumers against cybercrimes and fraud; prevent illegal activities, such as money laundering and terrorist financing; enhance cybersecurity to prevent cyberattacks and hacking; protect personal data and privacy; and balance innovation and financial stability?

Continuing Growth

Identifying the role of international financial institutions and regional cooperation in addressing challenges and vulnerabilities is of paramount importance. Moving forward, a key question is how all stakeholders cooperate and collaborate to support the campaign for inclusive finance through the channels provided by new technologies.

It is equally important for all stakeholders to collaborate in addressing the challenges these new technologies are presenting by putting in place the soft and hard infrastructure needed, enhancing data privacy and consumer protection, and tracking fraud and other illegal activities that are increasingly more transnational.

The growth in Asia's fintech sector continues unabated, but these questions must be addressed sooner rather than later.

**This is an abridged version of a piece that first appeared on the Asian Development Bank's Development Asia platform.*

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Cyn-Young Park has been a main author and contributor to the Asian Development Outlook and participated in the G-20 Development Working Group. She also managed a team of economists to assess the socioeconomic benefits of ADB programs and projects and provided country diagnostic studies for effective ADB support to its developing member countries.



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Preparing for the Age of the Digital Attacker

*Shrikant Patil
Principal at Oliver Wyman*

“Forty percent of businesses ... unfortunately, will not exist in a meaningful way in 10 years,” John Chambers, retired Cisco CEO, once predicted in 2015, adding that while 70 percent of companies would attempt to go digital, only 30 percent of those would succeed.

Over the past decade, the industry has witnessed a radical shift in the perceptions of value proposition—from incumbent multinationals to responsive and scalable digital entrants reinstating their relevance for markets. While the phenomenon is often referred to as disruption, it presents a glorious opportunity for embracing value creation by embracing new-age digital principles.

Between 2014 and 2019, the number of unicorns has sharply risen from 38 to 325 globally. Additionally, they have continued to expand in terms of their valuation, and today, 20 of these companies are “decacorns”—companies valued at over \$10 billion. These numbers not only reflect phenomenal growth at an unprecedented scale but also a burgeoning optimism that speaks volumes about the needs and aspirations that were largely unaddressed by existing players. Meanwhile, in the same period, the total market capitalization of the top 10 banks has increased less significantly from \$1.7 trillion to \$2.3 trillion.

Speaking in context of the financial sector, banks and insurance companies across the world are currently experiencing an era of hyper digitization. Traditional banks face disruption from various quarters, making it imperative for them to evolve to remain profitable over the medium-to-long term. The disruption is starkly evident as new entrants pose a formidable threat to the incumbent banks.

The shift in value proposition is clearly pointing to the mastery of new entities to dominate the world stage.

Impact on Incumbents

Incumbent banks need to watch out for these digital attackers or neobanks because not only do they serve as an alternative to banks, they are also leaders in adopting technology, helping customers and businesses to uproot legacy technology that plagues traditional players. As of 2018, these new entrants have accumulated up to one-third of new revenue in the global banking industry. As banks adapt to the changing ecosystem, there are four driving forces that they must be cognizant of.

1. Customer expectations of banking have shifted from transactions at physical branches to frictionless product opening, optimized financial management and even banking super-markets.
2. New competition from digital entrants is accelerated by price comparison sites,

- monolines, and info-tech giants and online retailers.
3. Business model/benefits are increasingly marked by outsourcing of non-core back-end activities to vendors and partnerships forged with other players in the ecosystem.
 4. Regulations increasingly warrant customer ownership of data and compliance by regulation aggregators and platform providers.

Neodigital Attackers Conquering Frontiers

Disruption in the financial services sector is posing formidable challenges for incumbents. This is largely due to the various products and services new players offer that incumbents are still getting accustomed to and trying to adapt.

For example, today new generation neodigital attackers can offer a highly targeted value proposition enabled by data and analytics, achieving a return of equity (ROE) rate of over 30 percent. On the other hand, a universal bank with a digital offering provides a broader value proposition and receives a lower ROE of 15-20 percent. The new players also have a shorter time-to-market for dynamic product offerings, while the universal bank typically takes six to 12 months with its in-house solutions and products.

Additionally, new players don't have large legacy infrastructures, making it easy for them to change direction and strategy if needed—something that large incumbents with well-established infrastructures cannot do as swiftly. The new generation digital bank has a lean data infrastructure that allows easy access to any data for quick development in almost real time. It also has an agile modular IT architecture with advanced functionality. A universal bank with digital offerings will pale in comparison with its complex data infrastructure, traditional data analysis techniques, and rigid IT infrastructure.

Neobank Product Offerings and Initiatives

A neodigital attacker is one that typically has no physical locations and serves its customer primarily through digital platforms. Most neobanks, such as Pockit and Monzo, start by launching core products such as current accounts, cards and payments. Only a few independent neobanks, such as Atom Bank and N26, have ventured into the credit domain. This is easier for subsidiaries of institutions with credit decision capabilities.

In addition, Openbank and Oaknorth, for example, have also added products such as savings or insurance-to-date, with most using third parties for such offerings.

With innovative opportunities and leadership commitment, neobanks can embrace challenger ambitions in line with global leaders. Key initiatives include enabling secure data exchange, embedding third parties on the bank's platform, originating and/or embedding bank products on third-party platforms, supporting the launch of microbanks and providing customers with third-party apps.

Benefits of Adapting a Challenger Model

At the current rate that digital attackers are progressing and evolving, traditional financial services firms will need to learn to disrupt, or they will be disrupted. Incumbents can gradually move toward a challenger model by swiftly adding new digital capabilities on the top of their current model.

These are some key benefits of the challenger model for incumbents:

- Low cost to serve as build costs have decreased dramatically with advances in cloud-based services and technology.
- Speed to launch and time-to-market have also significantly been reduced without the need to build from scratch.
- Zero operations owing to the possibility to create businesses that are digital by design, contributing to significantly lower run costs.
- Modular, scalable architecture that supports data-driven business models and provides active solutions to win over customers.
- Infrastructure agnostic, which allows players to sidestep the challenge of legacy infrastructure and get to a truly customer-centric and pragmatic offering faster.

Exhibit 1: The Old Versus the New



Greenfield As a Catalyst for Bank Transformation

We refer to this incumbent strategy as the greenfield approach (Exhibit 2). As an incumbent, imagine if you could combine what is possible in a new build with the business model advantages of an existing firm, such as the established branding,

funding, customer base, regulatory approval and existing data.



EXISTING BANK
 Established brand
 Customer base
 Funding
 Existing data
 Perceived safety
 Regulatory approval



DIGITAL CHALLENGER
 Agile and innovative
 Customer centric
 Low-cost base
 Cloud-based
 Next generation system
 API driven
 Micro services



GREENFIELD BUSINESS
 Best-of-breed technology
 Customer centricity
 Freedom to operate
 Venture discipline

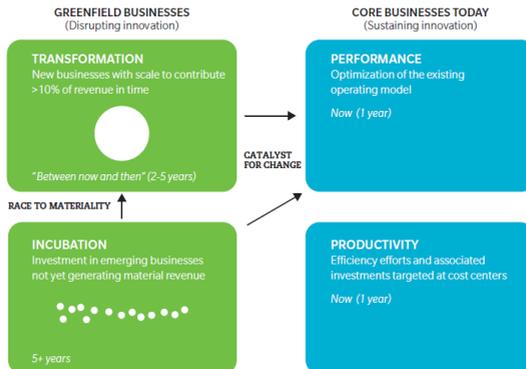
Source: Oliver Wyman, 2019. The State of the Financial Services Industry 2019: Time to Start Again.

Existing players are starting to realize the merits of starting afresh. The National Australia Bank, for example, recently launched QuickBiz, an unsecured digital lending solution that has become a key channel for small business. Another is Nexible, built by German insurer ERGO as a challenger proposition to its auto-insurance business.

There are ways for incumbents in the banking industry to tackle the disruption. Banks need to be flexible and can potentially embed third parties within their bank platforms or originate and/or embed their own products on third-party platforms. Additionally, with scalable and secure technology platforms, they can also support or launch “microbanks” or even provide ecosystem customers with third-party apps.

Traditional players can look at greenfield as a transformation catalyst for change. In fact, it is now possible to deliver a major greenfield business with an experimentation flywheel approach in 12 months, starting from an experiment phase, to pilot, scale up and finally run it.

Exhibit 3: Greenfield in an Investment Portfolio



The return on each investment will be uncertain, but the funding required is stage-gated. The investment funds allocated are also within the scope to scale up the most promising ideas.

Additionally, governance is no longer about big multiyear budgets with fixed, microdetailed deliverables. Shareholders can see how the portfolio aligns with the company strategy, both in terms of growth or addressing disruption threats.

The rapid pace of digitization and the infiltration of new tech players into the financial sector is compelling incumbents to get onboard the tech bandwagon or risk missing out in the current digital era. Incumbents will increase their chances of holding their own if they start taking action now.

**More about the greenfield approach can be found in Oliver Wyman's State of the Financial Services Industry 2019 report.*

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Shrikant is principal at Oliver Wyman's Digital Practice in the Singapore office. He drives thought leadership in the fields of digital greenfield, fintech strategy and business models, interconnected organizations, digital ecosystems and blockchain. Over the last 17 years, Shrikant has worked across 15 countries spanning North America, Europe, Australia, Asia, Middle East, Africa and India.

P2P Lending: Lessons from Asian Governments

Ajit Raikar
Co-founder & CEO of Validus Capital

The digital transformation that has swept industries from retail to transportation has now set its sights firmly on the financial services industry. Though financial services have been computerized for several decades, a true transformation has been quite elusive. That is, until the rise of fintech and alternative platforms promoting peer-to-peer (P2P) lending and financial inclusion.

Southeast Asia presents a massive opportunity for P2P lending platforms. This is because of the many advantages that P2P lending platforms provide, which include lower transaction costs and enhanced convenience for end users. Coupled with Southeast Asia's high mobile subscription rates, Internet penetration rates and young population, this is a recipe for success. With the high level of connectivity, both lenders and borrowers can be connected in a remarkably cost-efficient manner. While P2P lending is only a small fraction of overall loans disbursed, its rising prominence in Southeast Asia cannot be ignored.

Besides, the digital transformations of other industries have made customers more trusting of and comfortable with tech-based financial solutions. It has also increased their demand for immediacy and customized products and services.

Lessons from P2P Lending in China

China's retail loan penetration rate is around 20 percent, among the lowest in the world. Its banking sector has typically prioritized state-owned enterprises and influential borrowers over SMEs and the broader retail market. This means that a large segment of the population is underserved—although China's average income is relatively low, the size of its middle class is roughly similar to the population of Europe.

Responding to the market gap, over two thousand P2P lending platforms set up shop, resulting in world-beating growth. According to Bloomberg, there were outstanding P2P loans to the tune of 1.22 trillion yuan (\$180 billion) in December 2017, ballooning from almost nothing in 2012.

What happens when there is a lack of regulatory oversight, an inability of P2P lending firms to access credit scores and the prevalence of operators who do not know how to run a P2P platform properly? Add to this mix lenders who quickly jumped at the opportunity for high returns without proper due diligence. The result was a disaster, with widespread defaults and the loss of billions of dollars' worth of investor savings. There was widespread anger and several protests, which forced the government to step in and purge the industry. "P2P finally turned from 'peer-to-peer' to 'police-to-people,'" tweeted one disillusioned investor who was unable to reach the protest site

due to government lockdowns.

This resulted in thousands of P2P lending platforms that were unable to repay investors, either halting operations due to police investigations or just fleeing with the remaining money. In 2018, the number of P2P operators dropped by more than 50 percent to 1,021, and no new firms have entered the market since August. By the end of 2019, that number could drop to as few as 300 firms.

From China's P2P Lending Winter to Southeast Asia's P2P Lending Spring

There are several examples that highlight that first-mover advantage may not be as powerful as some entrepreneurs think. Google was not the web's first search engine, Amazon was not the first online bookstore, and Facebook was not the first social media platform. China happened to be one of the first countries to embrace P2P lending massively.

Recent data shows that the five most populous Southeast Asian countries—Indonesia, the Philippines, Vietnam, Thailand and Myanmar—together have over 90 million youth or close to an average of 17 percent of each country's population. Out of this, 49.8 percent of the population is urban, and the median age in Southeast Asia is 28.8 years. This generation is considered to be the most productive, digitally enabled and open to change. According to a report on accelerating financial inclusion in Southeast Asia, more than half (54 percent) of the adults in the poorest 40 percent of households remain unbanked. Access to credit from formal channels and use of insurance solutions are significantly lower. Only 18 percent of adults use a bank account to receive wages and pay utility bills, and just 27 percent of adults save formally and 11 percent borrow formally.

The government and the private sector are stepping in to tackle this gap. In Indonesia, for instance, initiatives by regulators to support the sector include the Fintech Office, the launch of the National Payment Gateway, and the establishment of the Fintech Regulatory Sandbox for P2P lending services.

“One of the key priorities for the Indonesian government is to create a sound and strong financial sector that is easily accessible, even for those in remote areas. This is why microfinance is becoming so important, so we can create access to formal financial products,” said Muliaman Hadad, chair of the Otoritas Jasa Keuangan, the Indonesian Financial Services Authority

Here lies the key to P2P lending success in Southeast Asia. It is only when various stakeholders from across the board—the government, P2P lending platforms and investors—come together in a more integrated way that the concept can be genuinely successful. And, this is already happening across Southeast Asia.

Digital Transformation Provides Significant Opportunity for Legitimate Players

Many banks consider the growth of P2P lending as direct competition, as was the case in China. However, in Indonesia and other Southeast Asian countries, the

fintech industry will support and run parallel to banking. While banks were wary at the early stages of P2P lending, with increasing regulations, large banks are significantly more inclined to partner with these platforms.

Hence, it is crucial that P2P players demonstrate the right balance between protecting the lender through a robust risk-management framework, a good level of transparency on loans and high service levels for both lenders and borrowers. This will help ensure sustainability for the players and a viable market where digital trust can be established. This is where the power of digital transformation comes in.

Digital tools powered by an open data sharing architecture are enabling fast, low-cost and convenient customer identification and verification. This is especially so when the processes are powered by unique national IDs, a real-time verification infrastructure and a supportive regulatory framework featuring tiered KYC and cross-product KYC. Alternative sources of data, such as data from payment transactions and telecoms providers combined with analytics, are improving customer profiling, credit risk assessment and fraud detection. However, there remains plenty of scope to make open data sharing more accessible and useful for all the stakeholders.

Apart from having a digital and open data sharing architecture, a strong regulatory framework needs to be enforced to ensure that the investor's money is protected. Firms should be required to meet a minimum capital requirement, and the regulators should also ensure that, if a platform collapses, there is a system in place for loan repayment to continue and be paid to the investors. These are a few examples of how the government can provide support to the sector.

The new forms of alternative finance will profoundly shape Southeast Asian economies for decades to come. They promise to challenge the regulatory environment, test the political will and question our ability to embrace change.

There is no doubt that there are many potential vulnerabilities that might impede the future growth of P2P lending in Southeast Asia. These pitfalls need to be identified, understood and prudently managed for the long-term viability of the sector. To have long-term, sustainable and inclusive growth, the industry needs to adhere to best practices and cultivate trust, while continuing to innovate in products and services that provide returns to investors.

About Author



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With over 30 years' experience in SME banking, Mr. Raikar has held senior management roles across leading financial institutions such as DBS Bank, Citibank, Fullerton Financial Holdings and Bank Danamon. His knowledge and expertise in the field of SME financing spans multi-geography exposure to banking verticals for coverage as well as risk. At Citibank, Mr. Raikar pioneered its SME banking concept—building a robust SME franchise from scratch that was replicated across Citibank globally.

From Zero to \$1 Billion: P2P Lending in Indonesia

Iwan Kurniawan
Co-founder and COO of Modalku

In late 2015, when I first presented my business plan to a group of financial professionals in Indonesia, it was met with strong skepticism and apathy. “Do you understand Indonesian borrowers? They will default on you,” or “Are you sure OJK (the regulator) will support this?” were common refrains. The journey to launch a digital-financing platform seemed treacherous back then.

Fast forward three years, the Indonesian P2P lending industry is now a billion-dollar industry, having disbursed an estimated \$1 billion since 2016. Over the same period, more than two million borrowers (companies and individuals) and 150,000 lenders have also been served by the industry.

The rapid growth of P2P lending has led to investments by reputable global and local investors, such as Sequoia Capital, SoftBank and Mandiri Capital. This has been no mean feat, given the numerous regulatory, risk management and growth challenges the industry has faced along the way.

Launching a Digital-Financing Platform Without Regulation

Launching a digital financing platform in 2016 was simple; there were no regulations to comply with or industry standards to follow. No regulations may sound like a good thing for a startup, yet countries that waited longer to regulate P2P lending, such as China, have seen difficult outcomes for the industry. In the case of China, years without regulations have meant that it is not uncommon to see platforms shut down due to fraud and poor risk management, taking investors’ money down with them. While regulation is easily perceived as anti-growth, basic regulations related to consumer protection and risk management can, in fact, play an enabling role as it fosters the sustainability of the industry.

As a fintech platform, there are benefits to spending time at the start engaging with the financial services regulator and government institutions, while educating the public and media. The message is clear and consistent: Fintech is the answer to financial inclusion, yet fintech will only thrive under a balanced set of regulations. Recognizing the need to regulate, in late 2016, Indonesia’s Financial Services Authority announced its first set of regulations for fintech, which has since set a solid foundation for the digital financing industry.

Navigating the Risks of SME Financing

The financing gap in Indonesia, especially for MSMEs (micro, small and medium enterprises), is as large as \$75 billion. Yet, serving small businesses is often

challenging from a risk-management standpoint. The majority of Indonesian SMEs have limited or poor financial management practices and limited or no credit history, making it difficult to underwrite credit. Solving such a challenge is not straightforward, with different companies adopting different approaches.

The first school of thought is about leveraging data and technology in the most impactful way possible. By using alternative data provided by loan applicants, such as online transactions and mobile-use behaviors, it is possible to discern through the quality of the loan applicants. It is equally important to have the methodology and habit to conduct tests, measurements and iterations on a regular basis on various underwriting approaches to determine the optimal methods. Putting technology, data and disciplined testing together, it is possible to navigate risk-management challenges so as to serve more SMEs.

The second school of thought could be called the “bank-plus” approach. In short, the bank-plus approach is about adapting a credit underwriting approach that has worked well at banks and adjusting parts of it to make it work for the underserved market. Adjustments could include changes to the product design or the replacement of specific document or loan requirements, without compromising on risk management. Such an approach works well especially when the financing arrangement is larger and more complicated and where a more robust assessment approach is still the most reliable. Under this situation, it is still imperative to review traditional information and data, such as bank statements and invoices, to approve credit for SMEs.

Scaling to \$1 Billion

One would think that in a country where smartphone penetration is high, marketing to SMEs would not be difficult, but that is not the case in Indonesia. Reaching \$1 billion was a three-year journey filled with challenges and surprises. One of our more surprising findings was that, despite the penetration of smartphones, most small-business owners are not savvy users of the pocket machine. The fact that the majority also have a weak or basic understanding of financial literacy exacerbates the problem. So how does one scale a startup when most of the potential users are not easily accessible?

Part of the answer lies in partnerships, a channel that seems to be working out quite well for industry players. It is possible to have collaborations with e-commerce and payments platforms to deliver financing to merchants, leveraging transaction information on these platforms. In addition, there are opportunities to work with traditional supply chains, leveraging their networks and track records to serve SMEs operating in their distribution channels and managing risk by using data and technology. Such partnerships allow fintech startups to reach a wider audience while keeping credit risk manageable.

Yet, partnerships are only one part of the puzzle. In a new industry like ours, branding has also been instrumental to startups’ ability to scale. Most of Modalku’s lenders, for example, come organically to our mobile and web platforms, and compared

to our initial days, most of our borrowers now know Modalku before they even come to us, influencing their decision to borrow. This was made possible through constant engagement with the public and media, including publishing and distributing relevant content on a regular basis.

Realizing Financial Inclusion

Despite the rapid growth of the industry, there is still a long way to go in achieving greater financial inclusion. After all, with \$1 billion of loans disbursed, P2P lending has only closed a tiny part of the \$75 billion financing gap that exists in Indonesia. Credit data infrastructure remains weak, and SMEs—which are spread across various islands of Indonesia—remain largely weak in managing finances professionally and are less-than-savvy users of technology.

This, in turn, implies continued challenges and potential opportunities for startups in this space. To move forward, fintech companies are increasingly investing more into market education, product development, and credit assessment technologies. With the backing of a supportive regulator, major technology investors, and a slowly maturing industry, it will only be a matter of time before we see the industry reach a new high for financial inclusion.

About Author



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a critical mass of players to agree to use it, and that's not always easy. For a bank, that might mean convincing trading partners, stakeholders and regulators to climb on to the same platform. Before investing in blockchain technology, think about who will have to buy into using the platform, and make sure everyone is on board.

That might be challenging because blockchain technology is still very immature. The two most viable blockchain deployments are bitcoin and Ethereum, another cryptocurrency with smart contract features. These two blockchain protocols are magnitudes slower than today's databases, and both have very small capacities compared to what will be needed for say, trade finance. The underlying computer codes are open-source, still evolving, and come with warnings to use at your own risk.

Although nearly \$2 billion has been invested in blockchain ventures, most are still proofs-of-concept, experiments, or small-scale deployments. Granted, these are bellwether events, but it will take time to develop and scale enterprise-grade blockchains.

That doesn't mean businesses should reject the idea of blockchain applications. Through our research at MIT's Center for Information Systems Research and the University of Missouri-Saint Louis, we've come up with three practices that forward-thinking companies should engage in to understand which, if any, business problems blockchain technology can solve for them.

1. Help set the standards.

Collaborative blockchains are going to need standards that everyone agrees to. If you think blockchain might benefit your company, get out in front and join a consortium or nonprofit that is working to help set the standards. Word to the wise: Large consortia can be slow to agree upon standards or to develop actual applications. Many small consortia, on the other hand, produce proofs-of-concept quickly, but may not attract enough additional participants to reach critical mass. If possible, mitigate the risk of backing the wrong horse by participating in both large and small consortia.

2. Develop expertise.

As with any new technology, the most critical resource is talent. But one interviewee estimated that there are only around 5,000 people in the world with the skills to architect blockchain applications. You might need to partner with the consulting firms who snagged much of the global talent and let them transfer their knowledge to internal staff.

3. Monitor the startup space.

Startup ventures are proliferating in this space, some of which might be working on solutions to the problems you are facing, meaning you won't have to start from scratch internally. Monitoring the startup space in your industry will help you know when it makes sense to invest in the new technology and when it makes sense to hire an outside firm.

The bottom line: Enterprise blockchains are coming, but not as quickly as the

evangelists will have you believe.

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Bitcoin Is a Red Herring in the Discussion of Blockchain Energy Efficiency

Alisa DiCaprio
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The electric power industry has long been involved in digitization. However, the power industry has stumbled in its ability to efficiently scale new technologies that pass control to the consumer. The two major challenges that the bulk power system (BPS) faces in moving toward a secure and energy-efficient ecosystem include centralization and its inability to track provenance on a distributed scale.

Solving these problems is paramount in today's digital economy, where the world is more dependent than ever on continuous power delivery. Blockchain technology presents ways to do both of these things, while also improving cybersecurity.

Blockchain Is More Than Bitcoin

In a recent U.S. Senate hearing on the "Energy Efficiency of Blockchain and Similar Technologies," the Senate Committee on Energy and Natural Resources spent a lot of time on the impact of bitcoin mining activity on the base-load generation of the grid. Bitcoin miners use an estimated 73 terawatt hours per year of electricity. This is about 10 percent of the 2017 consumption of the largest electric market in the U.S. In a world where energy efficiency is the objective of consumers, utilities and regulators alike, this is a troubling statistic.

But the committee's focus on mining reinforces two misconceptions about blockchain. The first misconception is that bitcoin is equivalent to blockchain. In fact, bitcoin is a cryptocurrency, while blockchain is a technology used in decentralized systems.

The second misconception is that mining is inherent to blockchain. Mining is just one way to execute a consensus protocol, which is needed for the security of any blockchain system; not all blockchains require energy-inefficient mining. For example, R3's Corda, an open-source blockchain platform, does consensus by involved parties at the transaction level and does not have any mining function. And among blockchains that require mining, some techniques are more efficient than others: Bitcoin uses proof of work, while other blockchains use less energy-intensive protocols, such as proof of stake and proof of authority.

If energy efficiency is the goal, the presence of mining in some blockchain platforms does not need to end the conversation.

The Evolution of the Power Industry and Electricity Markets

The electric power industry's efforts to make transmission and distribution more efficient have a growing focus on digitization and decentralization of energy

systems in the form of smart grids. This improves wholesale energy efficiency for large producers and large users. It has also led to the recognition and test implementation of end-consumer self-determination of power exchange.

However, in today's system, small suppliers who run individual solar or wind generators are just patched into the existing wholesale market rather than fully integrated. Blockchain introduces the technology to better integrate and incentivize small suppliers in a way that is acceptable for regulators, utilities, and consumers.

Cybersecurity and Blockchain Are a Natural Fit

Today, the bulk power system's centralized operations and interconnectivity present one key security problem: Large numbers of consumers are vulnerable to losing their critical energy supply due to a single cyber event.

This is not an unlikely scenario. A 2015 cyberattack on the Ukrainian power grid did exactly this. Decentralization would make this style of attack more difficult and limit both the magnitude and the probability of large-scale threats.

Threat mitigation happens in several ways. Most directly, the distributed nature of the system means that there is no central point of control, thus reducing the probability of large-scale threats. Second, the data transmitted between parties is hashed and encrypted, so data is not transmitted across open lines. Finally, fraud can be detected earlier because once data is put in the system, it cannot be changed without consensus of all parties.

Provenance Tracking for More Efficient Renewables Supply

Progress toward energy efficiency in the BPS also stumbles on provenance. Existing technologies do not track the chain of custody well. Once renewable energy is on the grid, its origin is unclear. It could have come from a solar panel or a nuclear reactor. This lack of precision makes it difficult to reward or encourage the use of renewables. One solution has been the use of renewable energy certificates (RECs), which act as proof of the production of renewable energy and provide some insight into the energy's origin.

While RECs themselves are well-monitored, they have two shortcomings. They don't allow the consumer to know where their energy actually comes from (it is impossible to "buy local" using RECs), and they don't link individual consumers to the renewables markets, as they are mainly purchased by corporations.

Blockchain has features that address both issues. Blockchain has been proposed to trade these certificates. It could also be used to help microgrids explicitly identify and sell unused renewable energy. The Brooklyn Microgrid, for example, has applied blockchain to enable neighbors to buy directly from each other without going through the central grid.

A Consumer-Centric Distributed System Can Smooth Grid Volatility

In the U.S., 18 percent of all electricity in 2017 was produced by renewable

sources. This has doubled since 2008. One knock-on effect is that more small producers selling to the BPS increases grid volatility, as renewables production cannot be forecast or dispatched predictably.

By enabling a distributed system that includes both microgrids and large plants, blockchain can smooth the transition to a system with a more substantial share of renewable energy. This can promote energy efficiency by allowing customization of consumer products.

Today, for example, many urban utilities use devices for on-peak and off-peak control to reduce load at a wholesale level, but do not pass the full amount of the savings onto the customer. The customer wires specific large appliances to a meter, and the utility limits power to those appliances at peak times. This is an effective but crude way of controlling load. Nanogrids at a community or consumer level can be a more flexible way to control load.

The Bottom Line: Decentralization Is More Efficient if Enabled by Blockchain

In the end, energy efficiency is about a more focused use of energy. For the power industry, energy efficiency is about producing a given amount of power at a lower cost. For consumers, energy efficiency is about controlling their energy use. Industry and society are moving to independent nanogrids to reduce energy use and impacts.

But to scale nanogrids, a technology such as blockchain is needed to create markets for carbon offsets, secure decentralized energy systems and better compensate those who produce renewables and reduce power consumption.

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One Year After Bitcoin's Big Bust, What's Next For Crypto?

BRINK Editorial Staff

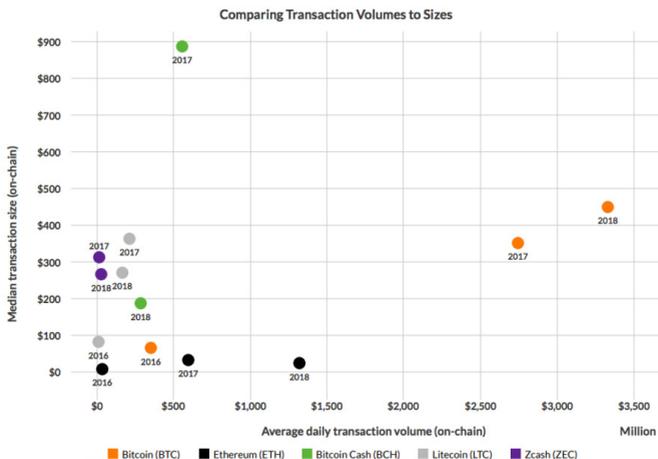
It's been roughly 10 years since bitcoin was first released as open-source code in January 2009—and the cryptocurrency has seen its fair share of peaks and valleys in that time. In 2013, the cryptocurrency's price jumped from \$13.30 to just over \$770. In 2017, after a few years of comparatively stable growth, it leapt once more, this time from \$997 to \$19,665.

Today, bitcoin is down roughly 80 percent from its all-time high in December of 2017.

Beyond the price fluctuations, the cryptocurrency has faced a range of other headwinds: Bitcoin was made illegal in a host of countries in South and East Asia, it has been derided by many of the top executives at prominent banks, and many traders were burnt by the currency's precipitous drop in value in 2018. It's impossible to say with certainty which way the market will move in the coming years. Still, the recent entry of new players into the space and new data about how people perceive the technology gives a clearer sense of how cryptocurrency may develop in the future.

Many Have Entered the Ecosystem Despite Downturns

Despite substantial drops in the value of crypto-assets in 2018, bitcoin saw its transaction volume size increase steadily from 2016—the only currency of the top five cryptocurrencies to witness such a trend.



Moreover, there is evidence that user adoption has increased. The 2nd Global

Cryptoasset Benchmarking Study, written by experts at the Cambridge Centre for Alternative Finance, drew upon 180 sources across 47 countries in an effort to survey the industry. The report's authors acknowledged the significant difficulties that arose when trying to accurately identify individual users (versus user accounts) on crypto-asset platforms.

Still, the Cambridge study found that even according to its lower-bound estimates, the number of ID-verified users had doubled between the end of 2017 and Q3 2018. Looking at surveyed platforms and available public data, the study estimated that there were at least 139 million user accounts by late 2018.

The study identified speculation and long-term investment as the technology's biggest uses. "Available data suggests that crypto-assets display behavior consistent with speculative investment rather than use as currency or payment methods," note the report's authors.

Millennials View Crypto Positively. Or Do They?

A new survey of 1,000 online traders published this week found that millennials' opinions of cryptocurrency are much more positive than the opinions of their older counterparts. The survey, commissioned by eToro, an online investment platform, found that 43 percent of the millennials surveyed said "they have less faith in the stock market than crypto-assets."

However, some industry analysts doubt the finding. In Breakermag, a financial publication focused on blockchain technologies, cryptocurrency journalist Jessica Klein wrote, "I am a millennial, so I am skeptical of this survey. First, it only includes 1,000 participants who already are prone to doing things digitally because they invest online. If that doesn't skew respondents to be more crypto-friendly (or at least crypto-aware), then the fact that the research 'oversampled' cryptocurrency traders by 285 respondents does."

Other data also suggests that a specific type of millennial is most attracted to bitcoin and similar cryptocurrencies. Men are twice as likely as women to invest in cryptocurrencies, and millennials earning between \$75,000 and \$99,999 per year, in particular, are most likely to invest in crypto-assets.

The Entry of Established Players Suggests a Move Toward the Mainstream

The eToro survey also found a strong desire from millennials for established financial institutions to offer crypto-assets. Of millennials who already trade crypto-assets, 93 percent said they would invest more money if traditional financial institutions got involved. The numbers were still high for surveyed millennials who didn't already trade cryptocurrencies: 71 percent expressed interest in investing more if traditional institutions offered crypto-assets.

Some institutions appear to be taking notice. Last week, JPMorgan Chase announced that it would start using a token called "JPM Coin" for a select subset of internal transactions. The bank's CEO has been famously critical of bitcoin. But

expanding into the space shows that large financial institutions view the technology as promising.

Not everyone is keen on established players entering the arena. “The rapid centralization of the Internet by network platforms in the West was in many ways a disastrous development,” the historian and author Niall Ferguson, told Breakermag. “As technology continues transforming how money works, we should be careful not to risk repeating those same mistakes.”

“What form will digital money take? My nightmare would be that Amazon, Google, or Facebook creates some hugely popular version of a digital dollar, at which point every transaction is going to be monitored by the network platform’s big data and AI systems to an even greater extent than is already true,” he continued. “The reason for experimenting with distributed ledger models is to come up with something that cannot be centrally monitored.”

What Comes Next?

How does bitcoin come out in all this? Any pronouncement is difficult to make without more data, but industry trends suggest growth. According to the 2018 Crypto Retrospective Report Summary compiled by Circle Research, blockchain merger and acquisition activity saw roughly a 300 percent year-over-year increase from 2017 to 2018. “While the 2018 bear market erased the euphoria of late-2017, it also cleared out low-quality projects and placed a renewed emphasis on building valuable crypto products and infrastructure,” writes the report’s author, Ria Mrinalini Bhutoria.

Bitcoin remains one of the biggest technologies in this space, and as the incumbent, it will continue to be the focus of attention from consumers, governments, regulators, financial institutions and businesses alike.

