



# Asia's Payments Revolution

by Andy Yee

The information intensity of the global banking and payments industry has long marked it out for transformation by information technology. As early as 1984, then CEO of Citibank Walter Wriston famously said, "Information about money has become almost as important as money itself." Since the early 1990s, the Internet has revolutionized the way information is transmitted. Today, we are moving to a world where value can move instantly between any person or business, in the same way that messages move on the Internet. As the operating model of the Internet continues to redefine money, payments innovation is cascading into every element of society and business.

Asia is at the vanguard of this transformation. New payments technologies and channels will provide great opportunities for financial institutions and new entrants, driving emerging economies to shift toward the inclusion of the unbanked, the replacement of cash, and the reduction of the shadow economy. In Asia, there are about 900 million people outside the banking system. Most markets, however, have high mobile phone penetrations, reaching 92% and 73% in China and India, respectively.<sup>1</sup> This spurs innovation. Take two iconic examples: with 700 million monthly users, China's WeChat addresses every aspect of its users' lives through its mobile wallet, from taxi booking to food delivery.<sup>2</sup> And in India, PayTm has grown in five years' time from a mobile app for recharging telephone accounts to a broad e-commerce platform, with 80 million registered users conducting 60 million transactions each month.<sup>3</sup>

The most recent McKinsey Global Payments report<sup>4</sup> reveals Asia's prominence as a growth driver. In 2014, payments revenue in Asia reached US \$740 billion, growing annually at 18% over the past five years. From 2013 to 2014, the region added \$75 billion in payments revenue, accounting for about 55% of global revenue growth. China, the leading performer, contributed \$65 billion, or 87% of Asia's total. Between 2014 and 2019, Asia is expected to contribute 40% of global payments revenue growth, more than any other region in the world.

The economic gains brought by digital payments are significant. Greater financial inclusion and less friction in commerce lead to increased spending on goods and

services. This, in turn, creates a virtuous economic cycle whereby increased consumption translates into more jobs and higher income. Moody's Analytics<sup>5</sup> estimates that increasing electronic payments contributed an additional \$296 billion to consumption between 2011 and 2015, or a 0.1% cumulative increase in global GDP during the period. They also created 2.6 million jobs on average each year. By harnessing payments innovation, Asia can further accelerate its economic growth.

## The Payments Virtuous Cycle

To fully understand the economic opportunities of the payments ecosystem in Asia, we can apply the typical three-layered network model (infrastructure, devices, and applications) of an interactive technological ecosystem. Networks, devices, and applications drive and support each other in a virtuous cycle. First, fast and reliable payments infrastructures empower banks and payments services providers to deliver better payments solutions. Next, new digital devices and channels extend the reach of the payments system, enabling merchants and retailers to create innovative commercial applications. Finally, a more appealing consumer experience attracts more end users, incentivizing governments and service providers to improve network infrastructure, completing the virtuous cycle.

### *The Infrastructure Layer*

There has been little innovation in the infrastructure layer until quite recently. As the digital age spurs demand for immediate services and instant information, many countries are working to modernize their payments infrastructures. These architectures are faster, more efficient, more effective, and able to support attractive use cases, such as person-to-person (P2P) payments and business-to-business (B2B) transactions. More than 15 countries, representing 45% of global credit transfers, have migrated to modernized infrastructures. If we include countries that are in the planning stage, more than 90% of today's credit transfers will benefit from modernized payments systems in the near future.<sup>6</sup> Usually led by governments with support from the

banking sector, these efforts bring real-time clearing of payments, additional capacity, and new capabilities, such as mobile payments. Ultimately, they provide the foundation for banks and nonbanks alike to cater to future payments needs.

Asia is home to some of the most successful systems. Japan's Zengin is the world's earliest low-value retail payments system. In operation since 1973, it has undergone a number of upgrades to evolve with the digital economy. South Korea's HOFINET, launched in 2001 to support Internet banking, has grown rapidly via mobile payments. In 2014, Singapore's FAST went into operation with an initial focus on mobile banking and e-commerce.<sup>7</sup> It is seen as a beacon for the ASEAN region. Elsewhere in Asia, Australia's New Payments Platform, planned to be operational in 2017, is eagerly anticipated. In Thailand, real-time payments made via mobile phone are envisioned to leapfrog credit/debit card use where acceptance infrastructure is not well developed. These modernized infrastructures, combined with new digital channels and technologies in the next layer, will unleash a wave of market innovation.

### ***The Device Layer***

In this layer, the revolution in digital channels is radically extending the reach of the payments ecosystem. The proliferation of smartphones and tablets is driving exponential growth in e-commerce and m-commerce. Looking ahead, future connected devices that can collect and exchange data across the Internet will deliver previously unimagined payments possibilities. Cisco predicts that there will be 50 billion connected devices by 2020, doubling from 25 billion in 2015.<sup>8</sup> BI Intelligence projects that by 2019, more than 148 million wearables will be shipped annually, up from 33 million in 2014.<sup>9</sup> The Internet of Things means that many new devices, such as a connected car or a connected refrigerator, can be transformed into vehicles of payments and commerce.

Asia is at the forefront of innovation and adoption of mobile technology for payments. In emerging markets, there are one bank branch and one ATM for every 10,000 people. However, there are 9,000 mobile phones for the same number of people.<sup>10</sup> Mobile devices reduce the cost to serve customers and make it possible to offer financial services to a vast population once considered unprofitable. At the same time, mobile point-of-sale platforms open up an affordable channel for merchants to accept noncash payments from cards and mobile devices. Today, mobile payments account for over 70% of all e-commerce transactions in China. And with increasing connectivity, noncash payments in emerging Asian economies are growing at an annual rate of 22%.<sup>11</sup>

### ***The Application Layer***

Advancements in infrastructure and devices make it easier to enhance the consumer payments experience. The application layer is where most of the payments innovation is playing out. Asia's diversified markets provide vast opportunities for market players to build new services.<sup>12</sup> In urban areas, a young and tech-savvy generation is producing an insatiable appetite for m-commerce, particularly in China (e.g., Tencent with Tenpay and Alibaba with Alipay). Globally, there are also over 200 million migrant workers in urban areas sending home more than \$300 billion a year.<sup>13</sup> A low-cost, digital remittance product would be another "killer app." In rural areas, telecommunications companies (e.g., Telkomsel in Indonesia and Globe in Philippines) have successfully offered basic financial services through mobile technology to the unbanked population. Yet another segment of opportunity is government-to-person (G2P) payments to the financially excluded, which is estimated to reach \$1 trillion in 2015. In India, the government is aiming to shift the payout of about \$60 billion in subsidies to electronic means.<sup>14</sup> Payments through digital channels can significantly reduce costs and prevent leakage.

Thanks to technology, innovation is more accessible than ever, and these opportunities can be seized by a wide range of players — from banks, telecommunications firms, and technology giants to fintech startups. It is the last category of player that is bringing the most vibrancy to the payments ecosystem.<sup>15</sup> Ten years ago, there were approximately 850 fintech companies. Today, there are 3,100. Fintech has become a hotspot of venture capital. In 2015, global fintech investment reached \$22.3 billion, of which Asia accounted for 19%, or \$4.3 billion, the second largest region after North America. Payments is the most popular type of fintech deal in Asia, accounting for 38% of the total.<sup>16</sup>

### ***Embracing a Payments Innovation Agenda***

Despite the accelerating pace of innovation, the reality is that cash remains the prevailing medium of exchange in Asia today. This is true for advanced and emerging markets alike. For instance, nearly 40% of consumer expenditures are made with cash in Singapore, while 50% are made with cash in Japan. In China and India, cash payments make up more than 90% of all transactions. The social cost of cash to economies with high cash usage can often exceed 1% of GDP.<sup>17</sup> This comes in the form of operational and processing expenses, counterfeiting costs, and tax evasion due to the development of the shadow economy.

By leveraging payments innovation, countries have a tremendous opportunity to stimulate economic growth, improve efficiency, and facilitate transparency. The choices governments and regulators make will strongly influence this growth potential. While innovation is not risk-free, risk doesn't need to impede progress when managed properly. Effective risk management can bring about responsible innovation. An optimal outcome will require striking the right balance between risk and innovation.<sup>18</sup>

Security is the foundation for commerce. As the payments industry reinforces its safeguards, governments can help establish mechanisms to share cyberthreat information. As digital payments increasingly cross borders, this can be achieved by cooperation between law enforcement agencies and industries across national boundaries. In addition, an effective set of principles-based minimum security standards can guarantee scalable and secure payments. However, this should not extend to legislating specific technology standards; doing so could hinder the rapid introduction of innovations to the market, such as new authentication tools to enhance security.

Governments also play a critical role in facilitating innovation. They can set an example of payments innovation by providing forums for consumers to become accustomed to using digital payments in trusted environments. Examples include public transit systems and government disbursement of social benefits, such as medical vouchers and emergency relief funds. And as innovation becomes increasingly collaborative, regulators can utilize their convening power to bring together financial institutions, merchants, startups, and entrepreneurs to foster linkages and partnerships.

In Asia's fast-paced payments ecosystem, the future is ever less predictable. But one thing is certain: the growth opportunities are significant. Only market players and governments that are willing to think innovatively and be adaptive will capture a sizable share of this growth.

## Endnotes

<sup>1</sup>World Cellular Information Service (WCIS; [www.ovum.com/data-tool/world-cellular-information-service/](http://www.ovum.com/data-tool/world-cellular-information-service/)).

<sup>2</sup>"WeChat Breaks 700 Million Monthly Active Users." BI Intelligence, 20 April 2016 ([www.businessinsider.com/wechat-breaks-700-million-monthly-active-users-2016-4](http://www.businessinsider.com/wechat-breaks-700-million-monthly-active-users-2016-4)).

<sup>3</sup>"Payments in Asia: At the Vanguard of Digital Innovation." McKinsey & Company, October 2015 ([www.mckinsey.com/industries/financial-services/our-insights/payments-in-asia-at-the-vanguard-of-digital-innovation](http://www.mckinsey.com/industries/financial-services/our-insights/payments-in-asia-at-the-vanguard-of-digital-innovation)).

<sup>4</sup>"Global Payments 2015: A Healthy Industry Confronts Disruption." McKinsey & Company, October 2015

([www.mckinsey.com/industries/financial-services/our-insights/global-payments-2015-a-healthy-industry-confronts-disruption](http://www.mckinsey.com/industries/financial-services/our-insights/global-payments-2015-a-healthy-industry-confronts-disruption)).

<sup>5</sup>Zandi, Mark, et al. "The Impact of Electronic Payments on Economic Growth." Moody's Analytics, February 2016 ([https://usa.visa.com/dam/VCOM/download/visa-everywhere/global-impact/impact-of-electronic-payments-on-economic-growth.pdf](http://usa.visa.com/dam/VCOM/download/visa-everywhere/global-impact/impact-of-electronic-payments-on-economic-growth.pdf)).

<sup>6</sup>"The Faster Payments Revolution: Build It and They Will Come." Aite, 20 January 2016 (<http://aitegroup.com/report/faster-payments-revolution-build-it-and-they-will-come>).

<sup>7</sup>Amit. "Real-Time Payment Systems Launched Across the World." Let's Talk Payments, 24 September 2015 ([https://letstalkpayments.com/real-time-payment-systems-launched-across-the-world-infographic/](http://letstalkpayments.com/real-time-payment-systems-launched-across-the-world-infographic/)).

<sup>8</sup>Evans, Dave. "The Internet of Things: How the Next Evolution of the Internet Is Changing Everything." Cisco, April 2011 ([www.cisco.com/c/dam/en\\_us/about/ac79/docs/innov/IoT\\_IBSG\\_0411FINAL.pdf](http://www.cisco.com/c/dam/en_us/about/ac79/docs/innov/IoT_IBSG_0411FINAL.pdf)).

<sup>9</sup>"The Wearables Report: Growth Trends, Consumer Attitudes, and Why Smartwatches Will Dominate." BI Intelligence, May 2015 ([www.businessinsider.com/the-wearable-computing-market-report-2014-10](http://www.businessinsider.com/the-wearable-computing-market-report-2014-10)).

<sup>10</sup>"Emerging Markets: Driving the Payments Transformation." PwC, 2016 ([www.pwc.com/gx/en/industries/financial-services/publications/emerging-markets-driving-payments.html](http://www.pwc.com/gx/en/industries/financial-services/publications/emerging-markets-driving-payments.html)).

<sup>11</sup>PwC (see 10).

<sup>12</sup>Gupta, Sunil. "The Mobile Banking and Payment Revolution." *The European Financial Review*, 1 March 2013 ([www.europeanfinancialreview.com/?p=996](http://www.europeanfinancialreview.com/?p=996)).

<sup>13</sup>Aggarwal, Neeraj, et al. "Untapped Potential: Mobile Banking for the Unbanked." BCG Perspectives, 23 August 2011 ([www.bcgperspectives.com/content/articles/financial\\_institutions\\_telecommunications\\_untapped\\_potential\\_mobile\\_banking\\_for\\_unbanked/](http://www.bcgperspectives.com/content/articles/financial_institutions_telecommunications_untapped_potential_mobile_banking_for_unbanked/)).

<sup>14</sup>Aggarwal, Neeraj, et al. "Capturing Payments Opportunities in Rapidly Developing Economies: Lessons from Brazil and India." BCG Perspectives, October 2012 ([www.bcgperspectives.com/content/articles/financial\\_institutions\\_globalization\\_capturing\\_payments\\_opportunities\\_in\\_rdes/](http://www.bcgperspectives.com/content/articles/financial_institutions_globalization_capturing_payments_opportunities_in_rdes/)).

<sup>15</sup>Skan, Julian, James Dickerson, and Luca Gagliardi. "Fintech and the Evolving Landscape: Landing Points for the Industry." Accenture, 2016 ([www.accenture.com/t20161011T031409\\_w/\\_us-en/\\_acnmedia/PDF-15/Accenture-Fintech-Evolving-Landscape.pdf](http://www.accenture.com/t20161011T031409_w/_us-en/_acnmedia/PDF-15/Accenture-Fintech-Evolving-Landscape.pdf)).

<sup>16</sup>Skan et al. (see 15).

<sup>17</sup>Govil, Sameer. "Perspectives on Accelerating Global Payment Acceptance." Visa, 2016 ([https://usa.visa.com/dam/VCOM/download/visa-everywhere/global-impact/perspectives-on-accelerating-global-payment-acceptance.pdf](http://usa.visa.com/dam/VCOM/download/visa-everywhere/global-impact/perspectives-on-accelerating-global-payment-acceptance.pdf)).

<sup>18</sup>"Supporting Responsible Innovation in the Federal Banking System: An OCC Perspective." US OCC, March 2016 ([www.occ.gov/publications/publications-by-type/other-publications-reports/pub-responsible-innovation-banking-system-occ-perspective.pdf](http://www.occ.gov/publications/publications-by-type/other-publications-reports/pub-responsible-innovation-banking-system-occ-perspective.pdf)).

*Andy Yee is a Public Policy Director for Visa in Greater China and a former Policy Analyst for Google in the Asia-Pacific. He can be reached at [ahkyee@gmail.com](mailto:ahkyee@gmail.com).*