



# 2ND ASIA FINANCE FORUM CONFERENCE PROCEEDINGS

FEBRUARY 2019



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# Contents

<b>Introduction</b>	<b>1</b>
<b>Day 1: 8 November 2017</b>	<b>2</b>
<b>Welcome Address – Day 1</b>	<b>2</b>
<b>Day 1 Keynote Opening: Sustainable Development Goals and Digital Finance</b>	<b>5</b>
<b>Session 1: Making the Last Mile the First Opportunity with FinTech</b>	<b>9</b>
<b>Session 2: How FinTech Is Impacting Urban Development across Asia?</b>	<b>13</b>
<b>Session 3A: Digital Finance and the future of commerce</b>	<b>17</b>
<b>Session 3B: Financing Agricultural Value Chains in the Digital Age</b>	<b>20</b>
<b>Session 3C: Innovations in Digital Technologies That Are Impacting Access to Insurance</b>	<b>23</b>
<b>Session 3D: Spring Boarding Pilot Projects Using Digital Financial Technologies into Full-Blown Projects</b>	<b>26</b>
<b>Day 2: 9 November 2017</b>	<b>30</b>
<b>Welcome Address – Day 2</b>	<b>30</b>
<b>Day 2 Keynote Opening Session: Digital Finance, Balancing Regulation and Policies</b>	<b>32</b>
<b>Session 4: Creating an Enabling FinTech Environment</b>	<b>35</b>
<b>Session 5: Infrastructure and FinTech</b>	<b>39</b>
<b>Session 6: Accelerating Financial Inclusion: The Role of Digital Identification Systems</b>	<b>43</b>
<b>Session 7A: Challenges of Cybersecurity for FinTech Operations</b>	<b>48</b>
<b>Session 7B: Test-and-Learn Approaches, Regulatory Sandboxes, and RegTech—The Story So Far</b>	<b>53</b>
<b>Session 7C: Data Privacy, Financial Education and Consumer Protection</b>	<b>59</b>
<b>Day 3: 10 November 2017</b>	<b>62</b>
<b>Welcome Address – Day 3</b>	<b>62</b>
<b>Day 3 Opening Keynote Session: Opportunities for FinTech in Asia</b>	<b>64</b>
<b>Session 8: Laying the Foundation for Digital Finance and Development Priorities</b>	<b>68</b>
<b>Session 9: The Way Forward</b>	<b>72</b>



# Introduction

The 2nd Asia Finance Forum: FinTech and Sustainable Development of 8–10 November 2017 provided valuable insights into themes running from information and communications infrastructure to payment systems amid the buzz animating the emerging digital finance world and new financial technologies associated with the up-and-coming blockchain technology.

The conference was a collaboration between the Asian Development Bank, Government of Luxembourg, Asian Development Bank Institute, Alliance for Financial Inclusion, Bill & Melinda Gates Foundation, and Consultative Group to Assist the Poor. The second forum once again brought together policy makers, financial sector supervisors and regulators, financial institutions, financial technology (FinTech) companies, academia, as well as financial sector experts to discuss the growing importance of FinTech in shaping the financial system of the new economy. This touched on areas such as logistics infrastructure, payment systems, financial services, cloud computing, and data collection.

The conference focused on:

- new developments in FinTech and their impact on the Sustainable Development Goals;
- the role of governments and multilateral development banks in the application of FinTech for sustainable and resilient infrastructure development;
- innovations in FinTech that are impacting access to finance, including agricultural value chains;
- how digital finance is being used to support investment in infrastructure, the new opportunities and trade-offs and the challenges for policy makers and regulators;
- digital finance and new developments in insurance;
- the role of financial literacy and consumer protection in the digital age;
- addressing the balancing act facing regulators as they deal with prudential, market side, risk governance issues, while creating an appropriate enabling policy and regulatory environment to support innovation;
- country and regional priorities to support the expansion of digital financial services and electronic payments;
- FinTech and future jobs; and
- how multilateral development banks can leverage FinTech in bringing private investment to developing countries.

# Day 1: 8 November 2017

## Welcome Address



**Bambang Susantono**

Vice-President

Knowledge Management and Sustainable Development  
Asian Development Bank (ADB)

## FinTech Is Shaping the Digital Economy

This year's gathering once again brings together distinguished officials, regulators, FinTech executives, financial inclusion experts, academia, and think tanks. We have witnessed the growing importance of FinTech as it shapes not only the financial sector but also the entire digital economy. This includes everything from infrastructure, payment systems, commerce, insurance, and even cloud computing and data collection.

Of course, this year's forum—organized by ADB in partnership with the ADB Institute, the Bill & Melinda Gates Foundation, the Alliance for Financial Inclusion, the Consultative Group to Assist the Poor, and the Government of Luxembourg—also focuses on new developments in FinTech.

We are seeing some valuable insights into how the transition to a cashless digital economy is impacting urban development as well as creating employment.

The People's Republic of China is definitely at the cutting edge of digital finance and the future of commerce. In addition, we hear a lot about the use of blockchain and I understand that many countries are experimenting in this area. These exciting innovations include Georgia's use of blockchain technologies to support their land registry, the innovative use of blockchain to support agricultural value chains through for example AgUnity and AgriDigital in Australia and the Central Bank of Papua New Guinea's use of blockchain to provide greater access to financial services to clients living in rural areas.

These and the many other FinTech innovations continue to offer new opportunities to serve better and support financial inclusion efforts. More importantly, they promise to promote inclusive economic growth and address key sustainable development goals, such as ending poverty, improving access to education, water, and energy to help us move toward sustainable cities and communities.

It is clear that to harness these innovations and to address these goals all stakeholders must work together. This includes governments, policy makers, regulators, development partners, and, of course, the private sector.



Last year, I spoke about the role and importance of knowledge management and the sharing economy.

When I speak of a “sharing economy” I am not only referring to products and services such as Grab, Uber, and Airbnb. More broadly, I am talking about bringing together the full range of individuals, companies, governments, and policy makers to share information and resources. It can create a network effect that increases access and value for everyone.

This year’s event, like last year’s, is an excellent example of the peer-to-peer learning I am referring to when I speak of a “sharing economy.” The potential reach of the event last year was some 8 million people on social media as participants shared what they were learning and hearing during the conference with their social networks from around the world. Similar to the precedent set last year, this year’s forum is again paperless, and we are proud to highlight that we have at least one woman on every panel during the forum, incorporating a gender view in every discussion by design.

*“When I speak of a “sharing economy” I am not only referring to products and services such as Grab, Uber, and Airbnb. More broadly, I am talking about bringing together the full range of individuals, companies, governments, and policy makers to share information and resources. It can create a network effect that increases access and value for everyone.”*

**Bambang Susantono**

Vice-President

Knowledge Management and Sustainable Development

## FinTech and Sustainable Development—Why It Matters!

We are honored again this year to have three prominent keynote speakers as well as leading experts and senior policy makers and regulators. As noted, the discussions that will follow offer an excellent opportunity to share experiences and will help make it more transparent how FinTech is helping to address many of the sustainable development goals.



The forum brings together over 250 participants from across the region, and even the Americas and Africa. About 75 participants are policy makers, government representatives, and regulators, and the rest come from a range of FinTech providers, banks, insurance companies, microfinance operators and networks, remittance companies, and academia.

### ADB's Role

Responsible and inclusive digital financial services are an essential feature embodied in ADB's Strategy 2020. It identifies support for innovative financial sector development and the role of appropriate enabling environments as important drivers of inclusive economic growth.



VP Susantono gave the welcome remarks at the forum.

## Day 1 Keynote Opening: Sustainable Development Goals and Digital Finance



**Chen Long**  
Chief Strategy Officer  
Ant Financial Services Group

Mr. Chen Long stated that he shares the United Nations' description of responsible finance, that is, accessible, affordable, wide-ranging in its services, and sustainable. However, he stressed that although this definition sounds simple, realizing the full goals and objectives of responsible finance is still a challenge.

Focusing on the major challenges in finance, Long talked about two challenges. The first problem of finance is that it is still not inclusive enough. Reaching and serving small and medium-sized enterprises (SMEs) and the poor remains a severe challenge in most developing countries. The second problem is the excessive focus on revenue targets. Too much energy remains focused on chasing profits rather than thinking about how financial services can empower the economy.

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*“The unprecedented speed of spreading and improving digital technologies means an unprecedented opportunity for digital finance.”*

**Chen Long**  
Chief Strategy Officer  
Ant Financial Services Group

Given these two challenges, the question is, how can digital finance make a difference? Long stressed that for finance to do a good job, it has to be accessible to more people and small firms. This is where new developments in digital technology are having the most significant impact, especially in:

- mobile connectivity
- big data
- biometrics
- artificial intelligence
- cloud computing, and
- blockchain technologies

Sharing the experience of Alipay and Ant Financial to illustrate his point, he said that “the important lesson is if you want to have financial innovation, it has to solve a pain-point in real life: in our case, it was e-commerce”. Created in 2004 to solve the trust issue in online shopping, Alipay has continuously grown and continues to reach critical new milestones. During the recent Singles Day Shopping Festival on 11 November 2016, more than 1.05 billion transactions worth CNY120.7 billion (\$18.1 billion) were made on a single day. To demonstrate how new technologies are vital in the new digital economy, Long noted that artificial intelligence crucially helped Alipay answer more than 97.5% of 8 million queries received on this day. Besides, developments in cloud computing enabled Alipay to process

120,000 transactions per second. Also, new financial technologies are also helping companies such as Alipay to reduce online fraud. These new technologies have helped Alipay reduce its fraud loss rate to less than 0.0001%, substantially lower than the international payment systems rate of 0.2%.

In particular, we now see how e-commerce is paving the way for the “cashless movement,” not only in the People’s Republic of China but in other parts of the world, including India.

## Co-Localization

Realizing that finance can spread very quickly through digital technology, Ant Financial is now working actively with global partners to promote inclusive finance, utilizing the concept of “co-localization.” Co-localization is not about setting up a branch in another country but working with local partners to use their network and to share technologies.

Long noted that new financial technologies have paved the way for the company to provide more effective access to credit. By using the e-commerce transactional histories of SMEs in the Alibaba marketplace, Alibaba has been able to provide credit in ways that would not have been possible for SMEs that used to rely on cash payments. Since 2010, Ant Financial has provided loans averaging less than CNY2,000 (\$300) to more than eight million SMEs.

He remarked that by providing access through new financial technologies, we see that even credit will no longer be driven by relying extensively on collateral or deposits but rather on digital trust and understanding your financial life (FinLife).

He also noted that Ant Financial is developing digital finance solutions for rural finance including:

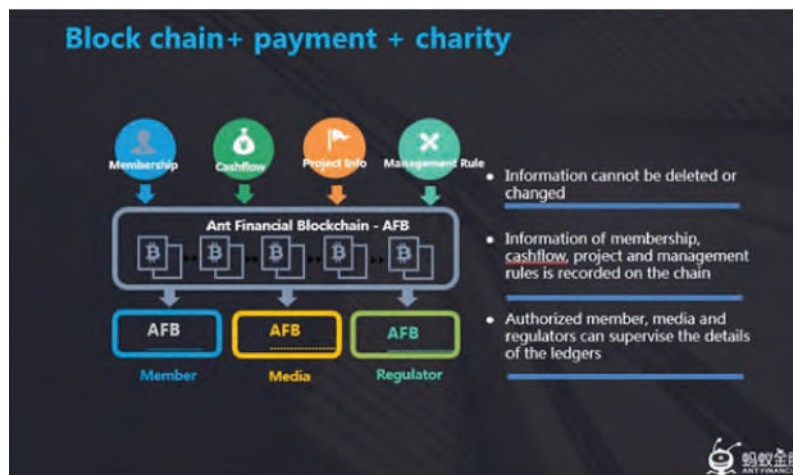
- focusing on farmers that sell via Alibaba’s e-commerce platform based on his/her online transactions;
- working with traditional financial institutions that have the brand and the “legs” to work offline to quickly get their loans to farmers by employing artificial intelligence solutions to better manage pre-loan and post-loan risk management;
- working with rural farmers, we now provide access to credit while also providing online integrated value chain payments between farmers, their supplies and buyers.



## Sustainable Development and Green Finance

For enabling green finance to support commercial innovations to deliver on the Sustainable Development Goals, Ant Financial has used new FinTech tools that are user-centric, inspirational, and scalable. To encourage people to lessen the impact of carbon emissions, Alipay came up with a virtual tree-growing mobile application that helps users not only track their carbon footprints but also to counteract this by “planting” trees. A real tree is planted after users put aside enough funds (visualized in the app as a growing virtual tree). More than 230 million Chinese signed up for this app in the past year, and 11 million trees were planted that helped counteract over 1.22 million tons of cumulative carbon emissions.

## Blockchain



Long also talked about how Ant Financial is using blockchain to change the way people view charitable contributions. In the past, many Chinese distrusted how charitable contributions were being spent. However, by using blockchain technologies, givers to charity can see where their contributions have been spent.

## Potential Risks

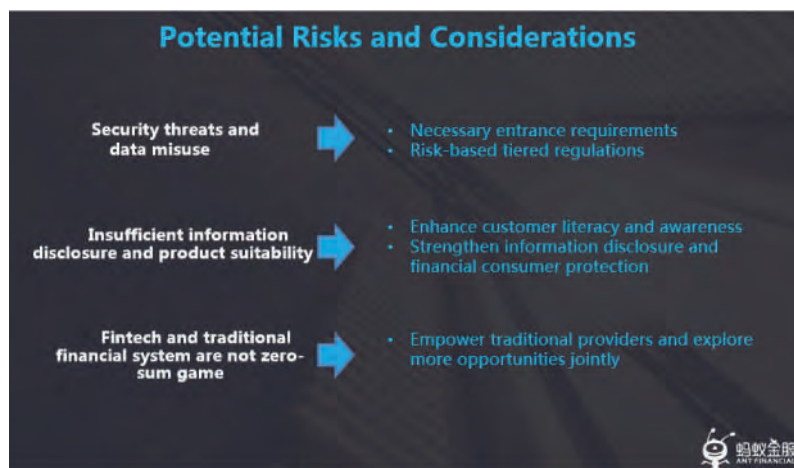
As Long pointed out, while FinTech is a powerful tool, it is not without its risks. These include the following:

- lack of disclosure
- lack of product suitability
- data security and privacy protection issues
- over-indebtedness

Also, he noted that traditional financial providers still have concerns about new FinTech players, He underscored that these new FinTech players provide an opportunity to the banks to build on each other's core competencies.



He also highlighted the role and importance of government and regulations to manage these risks.



In conclusion, Long emphasized that “the future of digital finance is embedded in the rural economy” but “we need to have an enabling and proportionate regulatory framework for digital financial inclusion” to make it work. He also cited how “regulatory sandboxes” can help to fast-track FinTech innovations while balancing risk management. Long highlighted that he envisions a future where finance is a customer-driven “FinLife,” where all individuals and companies will work together in a digital finance ecosystem powered by technology.



Ant Financial's Chen Long delivered the keynote speech at the forum.

## Session 1: Making the Last Mile the First Opportunity with FinTech



### Moderator

**Lotte Schou-Zibell**, Chief of Finance Sector Group, Asian Development Bank

### Panelists

**Michael Wiegand**, Director of the Financial Service for the Poor Initiative,  
Bill & Melinda Gates Foundation

**Chen Long**, Chief Strategy Officer, Ant Financial Services Group

**Ellison Pidik**, Assistant Governor, Central Bank of Papua New Guinea

**Jo Ann S. Barefoot**, CEO, Barefoot Innovation Group

The adoption of digital technology for enhanced access to finance is being seamlessly integrated into the day-to-day lives of Asian consumers much faster than in the developed world due to the lack of extensive legacy financial infrastructure and the leapfrog effect of new FinTech. The panel discussed several key opportunities and challenges, including the importance of interoperability, the role of agents, co-localization, digital currencies, and the role of regulation in the digital age.

## The Challenge of Interoperability

Michael Wiegand of the Bill & Melinda Gates Foundation talked about the Gates Foundation's Level One Project, which aims to define a pro-poor digital payment system and provide a solution to barriers that financial service providers seeking interoperability have traditionally faced.

“We found that interoperability is one of the biggest challenges to a lot of emerging companies which want to design a payment system that can reach people in rural areas in developing countries at low cost,” said Wiegand.

The Gates Foundation support to address the issue of interoperability has included the following:

- Bringing together the four largest mobile phone equipment providers—Ericsson, Huawei, Telepin, and Mahindra Cornviva—which collectively support 70%–80% of the mobile money market in the world—to support the development of open application programming interfaces for mobile money interoperability and to enable the transfer of mobile money between providers. By 2019, virtually all mobile money providers in the world are expected to be interoperable and provide open application programming interfaces and connectivity in partnership with banks and other FinTech providers.
- Working with software developers Ripple, Dwolla, ModusBox, Crosslake Technologies and Software Group, under the Mojaloop project, which is an open-source clearing and settlement platform for a variety of e-money providers.

## Role of Agents

- In the short-term, Wiegand mentioned that developing a physical cash-in cash-out agent network is still essential to support digital financial services in most countries. However, building such an agent network is expensive and difficult to sustain. Wiegand noted that the development of the most likely agent networks are happening in partnership with distribution networks who have an existing “natural” advantage rather than trying to build something from scratch. Also, to make agent networks viable, sustainable, and useful for the largest number of customers, they should be non-exclusive so that customers can be served by a variety of financial service providers.

## Role of Regulators

Long stressed that regulators and policy makers need to embrace digital financial services. For this, governments need to recognize and develop national strategies where inclusive digital finance is a top priority.

With the offer of more new channels and types of digital financial services, government and regulators also need to set appropriate standards and come up with a tiered regulatory approach that ensures proper levels of information disclosure, privacy, and data protection.



In addition, policy makers and regulators can play a catalytic role in support of digital financial services. Assistant Governor Ellison Pidik noted that regulators need to provide appropriate regulatory space to allow innovation, new products, services, and technology to play a role. The central bank is piloting a blockchain-based identification system called ID Box that will allow remote villages with low connectivity to register a trackable digital ID through blockchain. Pidik noted that this pilot paves the way for other central banks and governments in small island states to explore the potential uses of blockchain for identification and financial inclusion initiatives.

Jo Ann Barefoot noted that current regulatory infrastructure and systems are not designed to deal with the rapid pace and speed of change in the financial services industry. Regulators need to realize that regulatory responses need to adapt much more quickly today to support new FinTech innovations. “The most important thing that policy makers need to do is deeply rethink how to bring technology and consumers to the center of their agendas and think what the problems are that people have with their financial lives other than the lack of money itself.” She added, “rather than trying to reform the whole regulatory system, we need to figure out how to overhaul it. We should start small, and we should use sandboxes and experiments so that regulators can learn. Regulators should then think about planting alternative regulatory responses, contain the risk early on, learn by doing, let it grow, and let companies opt into it voluntarily.”

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*“The most important thing that policy makers need to do is deeply rethink how to bring technology and consumers to the center of their agendas and think what the problems are that people have with their financial lives other than the lack of money itself.”*

**Jo Ann Barefoot**  
CEO  
Barefoot Innovation Group

Barefoot also noted that, over time, the drive to include everybody in the financial system is going to enhance the strength of the system. Digital inclusion can build economic development and attach people to the mainstream economy whether it is the consumer or the small and medium-sized enterprises. However, one thing most regulators grapple with is the often big divide between financial managers dealing with price and market stability and people driving financial inclusion. It is important to bring them together as many of the government agencies do not see it yet. Two factors have pretty much driven financial crises: excessive leverage and lack of transparency. The ability to improve transparency and monitor excess leverage in the system and regulation through technology is something we need to pay attention to. We also need to have standard, tiered management and start with something small by “sandboxing.”

Wiegand noted that bringing the poor into the system will enhance financial system stability. For price stability, credit will be a big challenge. New sources of data and payment systems will open up credit to a wider variety of individuals and regulators will need to figure out how best to monitor and manage that credit.

He said that the Gates Foundation engages with regulators and advise on how to develop their systems in pro-poor ways. The Foundation has invested in developing technologies that other people can leverage for financial inclusion, such as in the case of Mojaloop. It also recognizes the vital role governments can play as catalysts to get large numbers of rural and low-income customers into a financial system that needs to work for everyone. Governments can also play a key role by digitizing their payments and social benefit programs to pump-prime usage.

## Where is Asia in the digital finance revolution?

While Asia is developing in different ways in different markets, there are several countries, in Asia that are leapfrogging the rest of the world notably the People's Republic of China (PRC) and India. According to Chen Long, this is the first time the emerging markets could have a late mover advantage in finance. New digital financial technologies for financial inclusion can help countries that have lagged behind in the recent past to surpass those in the west. This applies to countries such as the Philippines where there is good digital connectivity.

## How do you see the future of bitcoin and cryptocurrencies?

**Chen Long:** We can look at the relevance of bitcoin and other cryptocurrencies in light of the two general functions of currency. First, as a store of value, it serves as an alternative channel for storing wealth for some people who would want a certain level of anonymity. Second, as a medium of exchange. Currently, however, it is not very usable as either a store of value or as a medium of exchange due to its volatility. How successful it will be will depend on how it evolves based on those two functions and, more importantly, its stability.

**Jo Ann Barefoot:** We have to figure out consumer protection and suitability issues on this. We are looking at the question of whether governments themselves will issue digital currencies, which can offer several advantages over fiat currencies. The fact that you can send cryptocurrency in any denomination and even in tiny amounts at an instant and for little cost is transformational.



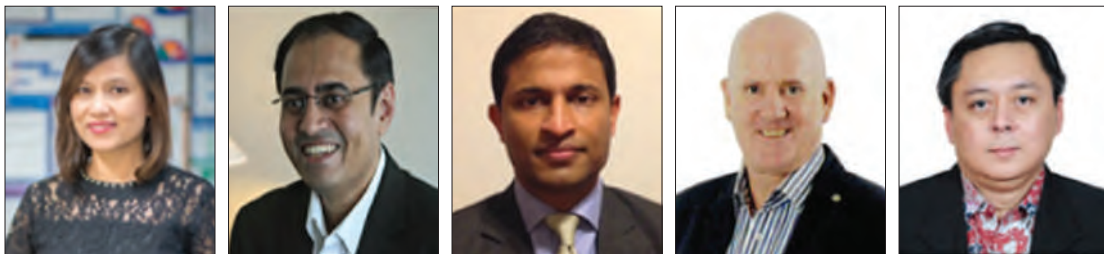
The session 1 panelists discussed new developments for making high quality financial services for the poor through the emergence of financial technology.

**Ellison Pidik:** Regarding fundamental aspects of the economy and where the central bank comes in, it is essential that financial systems offer trust and price stability. Price stability provides predictability for businesses to prosper. In the absence of price stability, there is chaos as people and businesses cannot plan. If we can have some mechanisms to provide stability and ensure trust and security, then there may be use cases for cryptocurrencies in the future.

**Michael Wiegand:** It is crucial for regulators to distinguish between bitcoin, cryptocurrency, and the underlying technology of blockchain and distributed ledger technology. Some of the underlying technologies are powerful, whereas some of the use cases have specific risks that some regulators need to take a cautious stance on.

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## Session 2: How Is FinTech Impacting Urban Development across Asia?



### Moderator

**Shirin Hamid**, Principal Director (CIO), Asian Development Bank

### Panelists

**Vijay Padmanabhan**, Director, South Asia Department conc. Chief of Urban Sector Group, Asian Development Bank

**Anthony Thomas**, President and CEO, Mynt

**Peter Maher**, President and CEO, AF Payments.

**Triyono**, Advisor, Indonesia Financial Services Authority

Asia is leading the world in implementation of smart cities by securely leveraging the integration of multiple information and communication technology solutions to better facilitate the use of transportation systems, access to clean water and energy, improve tax collection, and other key services. Smart cities aim to improve quality of life through technology that more efficiently delivers services that meet residents' needs. Given the momentum behind smart cities, governments across Asia are leveraging FinTech to bring relevant innovation to urban challenges, including increasing urban density, rising energy usage, growing demand on transportation services, and other needs.

This panel session focused on FinTech developments that are improving transportation, access to energy, and water, as well as facilitating the payments of local government fees. The panel also provided

useful examples of how governments in developing member countries can support transition to a cashless digital economy.

## Improving Tax Collection

Vijay Padmanabhan shared how the Asian Development Bank is working with governments to improve fiscal management and governance issues. This has in turn given them a platform to look into how to use new mobile technologies to support payments and transfers.

With its history of working with local bodies, what the ADB is “trying to do is determine which countries would be in the best position to work with” to take advantage of new FinTech opportunities, especially those with extensive mobile penetration and mobile payment regulations in place.

In particular, he highlighted the experience of the mobile payment initiative under ADB’s Local Government Enhancement Sector Project in Sri Lanka, which aims in part to improve the database and tax collection performance of local authorities. It involved partnering with local government bodies and a mobile payment provider to facilitate an alternative payment channel for local property taxes which can eliminate the time and expense for residents who previously needed to travel and wait in line at their local tax offices to make payments. While this project was just an entry point to demonstrate the potential of FinTech to improve tax collection, we see these platforms can be leveraged and scaled up in other markets as well, especially where mobile penetration and mobile payments are beginning to take off.

## Transportation

Peter Maher shared current experiences in promoting cashless payment solutions for the transport sector in the Philippines. Since introducing a digital payment system for the public transportation system in October 2015, the adoption rate has steadily increased, and now more than 60% of the present riding public (over 1.2 million people) are using digital payments every day. This has dramatically improved the efficiency and costs of running the public transportation system in Metro Manila.

Digital payment systems can help improve the efficiency not only of metro systems but also other public transportation systems as well as the bus network. We also see the opportunities for using new technologies such as Global Positioning Systems to improve the functioning of transportation networks. Moving forward, “we are excited by Near Field Communication enabled phones.” These new technologies are allowing people to top-up their digital transportation (Beep) cards through the enabled smartphone. These new technologies will make it much easier to facilitate loading digital payment cards and to transfer funds from one person to another.

Mr. Triyono also noted how e-transport payments were helping to improve transportation in Indonesia primarily via public and private partnerships. Commercializing the operations of digital payment systems for transportation services involved standardizing the payment system for both private and government-managed transport operators as well as partnering with banks to facilitate an interoperable digital payment platform. In many markets where various independent small transport operators run bus networks, Triyono stressed the vital role that national and local governments can play in setting standards and guiding the development of interoperable digital payment platforms.

## Government, Digital Identification Systems, and the Role of Digital Payments

Governments can support digital payments in a variety of ways. Identification systems are key so, that people can take advantage of a range of smart city opportunities, whether paying for transportation, access to water and energy, government services, or even businesses. Anthony Thomas revealed how Mynt is working with local governments to issue digital IDs and support digital payments. Thomas noted that Mynt has partnered with the Makati City Government to issue and link digital city IDs to e-money stored value accounts. This has facilitated disbursement of government benefits directly to local constituents through e-money powered local IDs. In addition, Mynt is working with the city to roll out quick response (QR) code payment systems for city services as well as local merchants.

“The vast majority of small businesses cannot accept digital payments today, and we are trying to lower the barriers to entry for that with QR-code based acceptance. Just like what Ant Financial has done in China and India, we are now rolling out QR codes not through devices but through payment stickers, which allow any merchant to accept payments at virtually no cost,” said Thomas. The government here can play a catalytic role by partnering to support digital IDs and also linking them to e-money accounts. This can benefit the whole community by supporting greater transparency, convenience, and efficiency of payment systems. “The whole cashless image of Makati now helps them attract both individuals wanting to live and work here as well as businesses wanting to be a part of that city,” Thomas noted.

### What are the biggest risks surrounding FinTech and smart cities?

**Anthony Thomas:** Traditional thinking around bringing FinTechs into any space is whether it adds to systemic risk or not. However, financial regulators such as central banks can best manage systemic risk. When one looks at markets like the Philippines, the central bank did open the market to FinTechs, such as e-money issuers like GCASH, but carefully managed risks by requiring appropriate limits and restrictions. These guidelines reduce risks but still enable access and facilitate small value transactions, which allow a better life for many people who do not have access to financial services.

**Triyono:** From a regulator’s perspective, it is not only important to have appropriate regulations, but FinTechs should also come together to support their own industry codes of conduct, especially in appropriate and proactive consumer protection issues.

**Peter Maher:** Controls, regulations, and appropriate levels of oversight are essential, but we see these are well in place in markets such as the Philippines.

**Vijay Padmanabhan:** By understanding patterns better we can also manage risk better. It is a question of how we get data and how we analyze and use the data to manage these risks. I am confident that the more data collected, the easier it will be to manage risks and build better services, so I see more opportunities rather than risks.

### What about issues around consumer protection?

**Peter Maher:** In the Philippines, I think there is great potential in the new regulatory technology (RegTech) approaches that the central bank is planning to implement.



**Anthony Thomas:** From an industry perspective, we also have to play our part and “police ourselves.” It is important that as we provide new FinTech services, we need to “add value.” We need to consider the “suitability” of our products and services to ensure that they address the “needs of customers” and help manage their financial lives and reduce risks.

### If you had one key takeaway, what would it be?

**Vijay Padmanabhan:** The convenience factor is the most important bottom line issue. As long as FinTech providers can focus on convenience, I see more people being helped.

**Peter Maher:** As the price of mobile phones and mobile internet access improves and becomes more affordable, more doors will be “open to the poor” to access financial services and improve their lives.

**Triyono:** FinTech services need to focus on practical solutions and support consumer protection.

**Anthony Thomas:** To support greater access and usage of new transactional accounts, we all need to make it easier for people to “fund these accounts.” The physical distribution of providing easier cash-in (as well as cash-out) networks and bringing down the costs of doing this still needs to be addressed if we want these innovations to support the goals and objectives discussed today.

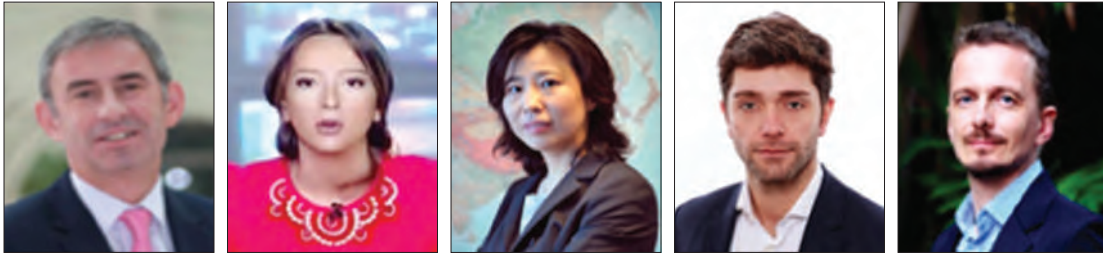
*“It is important that as we provide new FinTech services, we need to “add value.” We need to consider the “suitability” of our products and services to ensure that they address the “needs of customers” and help manage their financial lives and reduce risks.”*

**Anthony Thomas**  
President and CEO  
Mynt



The panelists for Session 2 were talking about the impact of cashless digital economy to urban development.

## Session 3A: Digital Finance and the Future of Commerce



### Moderator

**Steven Beck**, Head of Trade and Supply Chain Finance, Private Sector Operations Department, ADB

### Panelists

**Elene Grigolia**, LMD Component Manager, National Registry, Georgia

**Cyn-Young Park**, Director for Regional Cooperation and Integration, ERCD, ADB

**Claudio Lisco**, Innovation Consultant, ConsenSys

**Jordane Rollin**, Head, Digital Transformation, Trade Finance Global Products, Standard Chartered Bank

FinTech has the potential to change global commerce, trade, cross-border payments, and logistics, but its development is not even across markets or sectors. FinTech is beginning to enable value chains, especially for small and medium-sized enterprises, that could more easily sell items across borders. But more needs to be done to harness this potential. New technologies such as blockchain are facilitating trade and supply chain finance with new products, including smart contracts. In addition, various world payment processors are using FinTech and new blockchain technologies to more rapidly support businesses.

### Why are people so excited by blockchain and FinTech? What is the ideal scenario in what is possible?

We see the potential for blockchain technologies—especially in emerging markets, which are not burdened by legacy systems—to leapfrog development. Blockchain and the distributed-ledger technology have great potential to support a range of objectives cost efficiently.

Blockchain technology brings two main benefits to supply chains and trade finance. First, it allows point-to-point transactions that are completely decentralized without the need for intermediation. This helps significantly reduce transaction costs and, hence, increase efficiency. Second, it helps remove information asymmetry, since all users have the full information of all transactions, including information about assets and liabilities as well as being able to confirm the delivery of goods and services. This provides full transparency which is completely shared and is especially important in the financial services industry, where information asymmetry is usually the biggest challenge.

In trade, blockchain can play a significant role in facilitating international and cross-border payments, as well as in providing infrastructure for verifying the identities of all parties taking part in a financial transaction. Distributed ledgers can also help to systemically secure property rights, and be used to track and trace goods, which is very important in supply chain finance. Blockchain can also help simplify and support cross-border transactions for trade and other services, such as remittances.

Since the technology is cost efficient, even very small transactions can be enabled in ways that would have been too costly to support in the past and, hence, financial inclusion goals can be addressed.

### Where are we today? What are some examples?

Mining and tracking goods along supply chains provides one successful example of blockchain technology. Due to the granularity of information, a large mining company is now using blockchain to trace where minerals are actually mined. The information is readily available, since all the actors in the supply chain can enter data in real time. It helps ensure better compliance as well as fulfill audit requirements, as everything is trackable. This successful example is now being used to build more blockchain-enabled supply chain models in the region.

Other significant success stories include the use of blockchain to support know-your-customer, digital identity, cross-border payments, and remittances. Georgia is one of the first countries to use the blockchain for land and title registration. This helps ensure that data on the title of immovable property is transparently and safely stored through the blockchain network. Since records are kept on thousands of computers, information is more secure and accessible globally.

Other examples of registries include tracking invoices to ensure they are used only once for financing, which helps avoid situations in which sellers try to double finance the same invoice. Two banks are currently using a distributed ledger to register and finance invoices in the region. Since the invoices are listed on the blockchain when they are used to secure financing, the banks find the system more efficient and secure than manual systems.

Smart contracts that allow for various triggers based on specific actions are another example where blockchain technologies are starting to be used. In Georgia, this will soon be in place to support the buying and selling of property. There, a seller will be able to create a smart contract that allows the transfer of the property only after all the conditions of the sale of the property have been met.

### What's the next step? What will it take from where we are today to reach the ideal scenario?

The point is no longer about the technology, as the proof-of-concept has already happened. The challenge is around developing the international framework (laws and regulations) to define how blockchain technology will be used. Once standards are in place, the next challenge is adoption. This involves making sure that blockchain transactions can be easily used and accepted in the “real economy”. One of the issues is around ensuring that blockchain transactions can be used to represent accepted monetary value and the second is around digital identities that can be used for electronic know-your-customer purposes as well as anti-money laundering compliance. This still requires globally accepted standards and coordination among regulators and law makers in different jurisdictions to get to the next stage. The lack of standards leads to challenges that also prevent interoperability. Data privacy, especially across borders, is another issue. Notably, use of the global Legal Entity Identifier<sup>1</sup> by blockchain providers is one way that they could enforce and adopt international standards to support the cross-border identification of businesses.

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<sup>1</sup> The Legal Entity Identifier is a 20-digit, alpha-numeric code based on the ISO 17442 standard developed by the International Organization for Standardization (ISO). It connects key reference information that enables clear and unique identification of legal entities participating in financial transactions.



## What role can multilateral banks like ADB play in supporting the move to the ideal scenario?

Multilateral banks can play a key role in bringing the public and private sectors together on a regional level to help support consensus and regulatory coordination. Support for pilots and education campaigns are other ways ADB can encourage adoption of the blockchain. Education efforts should not only focus on consumers but, more importantly, the private sector including banks. ADB can also support “twinning programs” where those who have gained experience using the technology, such as Georgia, could help with the adoption of blockchain in other markets.



The panelists from Session 3A answered questions from the audience.

## Session 3B: Financing Agricultural Value Chains in the Digital Age



### Moderator

**Akmal Siddiq**, Director, Central and West Asia Department, ADB

### Panelists

**Prasun Kumar Das**, Secretary General, Asia Pacific Rural and Agricultural Credit Association

**David Davies**, Founder and Chief Executive Office, AgUnity Pty Ltd.

**Emma Weston**, Co-founder and Chief Executive Office, AgriDigital, Australia

**Andreas Senjaya**, Chief Executive Officer, iGrow Resources Indonesia

The influence of FinTech is supporting and even complementing efforts in traditional financial institutions in agriculture finance across Asia and the Pacific. These include the development of full-service kiosks as alternative delivery channels for banks to extend loans to farmers to buy inputs; promoting access to equipment and processing facilities, such as the shared “pay as you go” models; addressing inefficiencies in the value chain in Asia from production (access to capital to buy inputs, among others) to harvest (better access to market and price transparency); design, marketing, and delivery of tailor-fit insurance products for farmers.

FinTechs are beginning to provide solutions that help address the issue of transparency, convenience, and scalability for small-scale farmers. Technological advances are now making it possible to reach more players across agricultural value chains and thus earn higher revenues at lower cost than in the past.

**Emma Weston:** The AgriDigital platform is addressing three problems faced by small farmers. First, AgriDigital helps farmers with payments. The second problem which is related to why farmers are not usually paid when they deliver produce is that buyers cannot usually access supply chain finance on an automated basis. The third problem is product to pay transparency. Supply chains actually involve three sets of information: trade flows, data flows and finance flows. These three usually are not connected but we now have the ability to connect them through technology, primarily through blockchain.

**Andreas Senjaya:** iGrow supports organic farming by connecting farmers with buyers. We focus on farming cooperatives and help link them by developing a peer-to-peer lending platform. In Indonesia, many farmers fall into the trap of being indebted to money lenders so this is one of the challenges that iGrow is faced with.

**Prasun Kumar Das:** We build the capacity of financial institutions to reach into rural and agricultural areas. Central bankers are trying to promote fintech to address financial inclusion as well as hard to reach areas like small farmers. FinTech is helping to support outreach through branchless banking including the ability to support agent banking. In addition, FinTech helps to offer “pay as you go” models. Third, FinTech is helping to address financing along agricultural value chains, especially at the production and post-harvest stages. InsurTech is another area where FinTech is helping support agricultural value chains.

**David Davies:** AgUnity started the AgriLender system to help take advantage of blockchain and mobile technology to improve efficiency of agricultural value chains. The AgriLedger system helps improve trust by recording transactions on the blockchain. In early trials, this new technology has increased farmers’ income more than threefold in a single season. Apart from finance and building trust between farmers and buyers, blockchain technology can also help farmers to better cooperate. The system allows farmers to build trust in each other by allowing them to share equipment and/or transfer produce to farmer cooperatives by easily recording these transactions via a mobile phone onto the blockchain. One of the key approaches to build trust was to be true partners and not make money directly from the farmers but rather earn from actual transactions and purchases the farmers make via their mobile purchase orders.

## How do these models benefit agricultural value chains?

The ability for small farmers to see all transactions on their mobile phone via the blockchain helps to build trust integrated value chains. It also helps farmers to access better information including better pricing for inputs as well as focusing on crops that are needed. Apart from the production phase, post production value chains also benefit from digitized distributed ledger systems. AgriDigital uses its system to implement “smart contracts” that allows farmers to better track their produce until they actually receive payment. Produce is only delivered once the buyer’s funds are reserved and confirmed to be held in the farmer’s name.

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*“With digital finance, you can finance an asset instead of a borrower. This allows you to track the asset so we move to knowing your asset instead of knowing your customer. This allows us to better unlock the value of an asset (produce) that has not been collateralized appropriately. So this is a new way at looking at trade/supply chain finance.”*

**Emma Weston**

*Co-founder and Chief Executive Office  
AgriDigital, Australia*

## What are some of the pitfalls or challenges that you face from the government or regulators in using FinTech to support agricultural value chains?

In Indonesia, iGrow was not supported by the government or the regulator but once we tested the technology, the government and regulators were very supportive and interested.. Governments and regulators are actually looking for and open to solutions that can help small farmers. Once a FinTech solution can demonstrate new ways to improve the lives of small farmers, governments and regulators will seek you out. So while governments are not the first movers, the key is for governments and regulators to create the right “winning environment” to support FinTech for agriculture.

## When will we reach a tipping point where these new technologies really take off to support agricultural value chains?

Farmers will not be the one to create the tipping point, it will be further down the value chain. We need to look at hubs like farmers cooperatives to help support a tipping point in terms of the adoption of FinTech solutions for agriculture to take off. Technology can be the big equalizer. Smart phones are really the big driver once we can combine the power of distributed ledger and other financial technologies.

David Davies pointed out that development banks can play a crucial role in helping to test these approaches so that we can see a tipping point achieved more quickly.

## What are your thoughts about using bitcoin or other cryptocurrencies to support agricultural value chains?

David Davies mentioned that while he is a big fan of the power of blockchain to record and track farmer and agricultural value chain transactions, he does not see the need or value in cryptocurrencies as this complicates the picture and is not needed. The use of digital ledger to record transactions is the best way that blockchain can be used to support agricultural value chains.



The panelists for Session 3B shared examples in the use of digital technology to support agriculture value chains.

## Session 3C: Innovations in Digital Technologies Impacting Access to Insurance



### Moderator

**Arup Chatterjee**, Principal Financial Sector Specialist, ADB

### Panelists

**Ying Qian**, Director, East Asia Department, ADB

**Alex Chen**, Founder and Chief Executive Officer, Asia Risk Transfer Solutions

**Tapan Singhel**, Chief Executive Officer, Bajal Allianz General Insurance, India

**Robert Bauer**, Managing Director, Commercial Innovation and Head, Sharing Economy Practice Group, AIG

**Agnes Hugot**, Co-founder of Fast Track Trade, Cites Gestion

### Background

- Out of total insurance premiums collected globally, Asia and the Pacific is below the global average.
- As disposable income grows, higher levels of insurance protection are needed for life, health, and property.
- Insurance provides the ability to manage risks and share this through proper underwriting.
- Digital transformation and innovations are taking place in the insurance industry, and this is expected to expand outreach even to the base of the economic pyramid.
- A critical dimension technology brings is “trust” in insurance, as it is technology that can improve transparency and efficiency and speed up processing of claims.
- New digital insurance technologies, often referred to as insurtech, are helping meet the needs of more people than in the past. However, there are new challenges including issues around privacy, data ownership, and the potential to displace jobs in the insurance industry.

### What are the most innovative developments in FinTech innovations in the insurance industry?

**Alex Chen:** There are vast opportunities in emerging markets in Asia, where we now see the fastest growth rates in new policies issued and premium collection. However, new insurance demands are typically more micro-insurance policies characterized by low premiums with a high volume of transactions that require fundamentally new approaches to offering insurance.



**Tapan Singhel:** Information technology has transformed the insurance industry in India from a heavily paper-driven process to a technology-based processing from the proposal to the settlement of claims. However, issues of “mutual distrust” between insurers and customers remain a challenge amid difficulties in processing claims due to a lack of transparency.

One way Allianz has tackled these challenges has been to use new “InsurTech” approaches such as blockchain technology, which now allow customers in India to apply for insurance, pay premiums, and make claims digitally in a rapid and secure manner. The use of blockchain technologies and digital payment systems now allow the company to settle claims in under 30 minutes from the time of filing.

While some fear the “unintended” consequences of InsurTech affecting jobs in the insurance industry, Singhel is optimistic. He expects new jobs in the insurance industry to “explode” as opportunity grows to insure more people.

Rather than viewing microinsurance for the poor as a corporate social responsibility initiative, he sees tremendous opportunity for real growth.

**Robert Bauer:** Over \$122 million claims are processed every day. Insurance requires a community of practice that works together and shares risks. Partnership is, thus, very important, and partnering strategies need to build on connectivity.

Attention is needed to “change behavior,” he said, citing as an example a technology-based initiative of AIG to encourage safe driving (so-called smoothest driver). Through an app, driving behavior and style are monitored, data is then collected and analyzed, and incentives in the form of discounts are provided to the smoothest driver within a period. Bauer also sees a tremendous new market opportunity for micro-insurance products and services which focus on the fast-growing base of the economic pyramid.

**Agnes Hugot:** Insurance solutions should be seen as broad-based risk management tools. She likewise stressed the role that FinTechs have been playing in helping insurers and other businesses to become efficient by moving away from paper to digital processing of applications and claims. *Fasttrack Trade* is one example in which small and medium-sized enterprises and others in supply chains can be provided with insurance as well as facilitate trade through blockchain technology platforms. Platforms such as *Fasttrack Trade* help reduce the risks and costs for businesses along supply value chains, especially those too costly to manage previously due to low-value, high-volume transactions.

In Hugot’s view, new digitally enabled insurance has a much greater role than merely providing protection. New insurance models can also support access to finance, assist with de-risking small businesses and facilitate new products and services such as blended finance.

On managing distrust in the insurance industry one critical challenge is compliance with know your customer (KYC requirements). New digitally enabled KYC tools, like distributed ledgers, can help address untapped markets, especially among small and medium-sized enterprises, where as much

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*“While some fear the unintended consequences of InsurTech to affect jobs in the insurance industry, I am optimistic. I expect new jobs in the insurance industry to explode as the opportunity grows to insure more people.”*

**Tapan Singhel**  
Chief Executive Officer  
Bajal Allianz General Insurance, India

as \$90 billion in supply and trade financing opportunities are missed simply because of a lack of KYC and trust among the parties.

Hugot also sees that the new “sharing economy” is helping to create mutual insurance products, especially micro-insurance, which is a win-win for the industry and clients.

**Ying Qian:** Qian sees the role of smart insurance products and smart insurance technologies as important. Looking at the issues of the insurance protection gap in Asia, he sees that insurance coverage in the region remains low, but this is beginning to change.

In particular, he sees that the insurance industry needs to focus on the three following areas:

- Improve access to insurance products to address uneven coverage and huge populations not covered.
- Develop more insurance products tailored to address the protection gap.
- Look at new technologies, especially the use of big data and artificial intelligence, to bring down cost and expand the range of insurance products and services.
- Asia still faces several challenges, though, that will affect the insurance industry, including the effects of climate change and regulatory and supervisory issues, especially around new InsurTech.

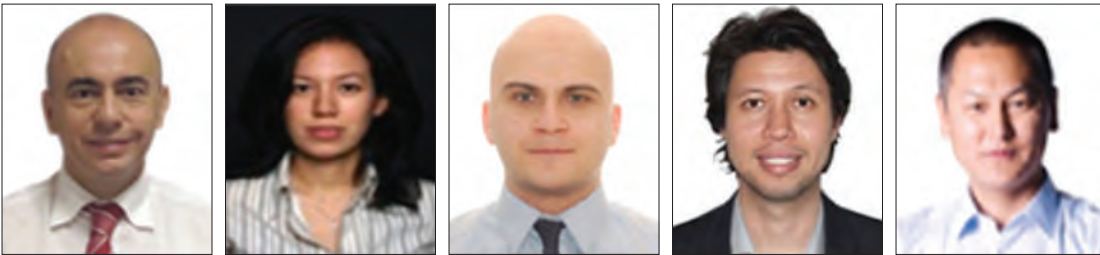
Other key discussion points raised included:

- InsurTech can better help bridge the protection gap for disaster insurance and pensions by looking at:
  - o Index-based insurance
  - o Expanded digitization of processes from application to claims settlement
  - o Product diversification to diversify risks
- The need to address key challenges in emerging InsurTech innovations, including:
  - o Improving the capability of regulators/supervisors
  - o Developing the understanding and capacity of reinsurance companies to better adapt to innovations
  - o The importance of continuous focus on customer-centric designs rather than focus on innovation
  - o The importance of financial literacy to ensure that customers can also better make use of and understand InsurTech options
  - o InsurTech should also focus on providing solutions to improve the customer experience, especially complaint management
- How governments and regulators can better support and supervise InsurTech?
  - o Allow space for innovations (regulatory sandboxes)
  - o Be part of the innovation process to understand better the dynamics, nuances, risks, and appropriate regulations and policies that are needed to protect customers and build trust for insurance
  - o Adopt proportionate risk-based regulations



Session 3C panelists responded to the moderator's questions.

## Session 3D: Spring Boarding Pilot Projects Using Digital Financial Technologies into Full-Blown Projects



### Moderator

Bruno Carrasco, Director, South Asia Department, Asian Development Bank

### Panelists

**Tanya Hotchkiss**, Executive Vice-President, Cantilan Bank, Inc.  
Giorgi Samadashvili, Chief Operating Officer, FINCA Bank Georgia  
Dominic Mellor, Mekong Business Initiative, Vietnam Resident Mission  
Ganhuyag Chuluun Hutagt, Chief Executive Officer, Ard Financial Group



There are three main reasons for conducting a proper pilot project when one develops a new financial technology. These include:

- **Manage Risk:** Whether the project is implementing a new technology or a new process, risk plays a major factor in whether business stakeholders will move forward with the proposed change. The pilot project can be used as an opportunity to implement the solution in a limited capacity where the impact of failure is limited. Once the pilot project is executed, the risks that were identified at the beginning of the project can be evaluated in terms of the actual solution being implemented.
- **Validate Benefits:** While risk falls on the cost side of the equation, a project would not be considered unless it had some reasonable perceived benefit. A pilot project provides an opportunity to discover or validate benefits by applying the solution concepts in a limited-scope fashion.
- **Promote Change Management:** The biggest hindrance to change in any organization is the people within it. Regardless of how much you ‘sell’ the solution with ROI statistics and qualitative benefits, there are always those that will only ‘believe it when they see it.’ SO pilots can be useful to convince management of the true potential of the innovation.

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*“For any institution, piloting innovative projects is a challenge that we have to face up to. We need to be clear what the benefits are, what the risks are and how we plan to manage these risks? Pilots can help us to better understand these challenges.”*

**Bruno Carrasco**

*Director*

South Asia Department  
Asian Development Bank

## From your perspective, what is the FinTech you developed and why is it important to pilot test new FinTech innovations?

**Tanya Hotchkiss** shared how cloud computing is helping a small bank improve efficiency. By piloting cloud computing, the bank’s management found that it could help bank to improve efficiency. More importantly the pilot test helped management to understand risks, test the benefits for the bank and its clients and then help to support change management.

**Giorgi Samadashvili** noted how FINCA Bank Georgia was able to test two new innovations. One was to automate loan application processes through the use of tablets provided to loan officers and the second initiative was to test new credit scoring technologies. For FINCA Bank, these new innovations focused on the promise of improving speed, efficiency and driving down the costs of providing financial services.

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*“We can process a new micro loan of up to \$1000 in less than 40 minutes, but we know this can still be improved.”*

**Giorgi Samadashvili**

*Chief Operating Officer*

FINCA Bank Georgia

**Dominic Mellor** discussed how the ADB provides support both of the policy side and on the financing side to pilot and support new financial technologies in the field. In Vietnam and Myanmar, only a very small percentage of SMEs keep appropriate and transparent accounting records. So to help these SMEs the ADB provided support to work with a local FinTech to provide cloud based accounting and financial management tools for these small businesses. Bank partners of the ABD quickly realized the advantage of digitized accounting and financial records for SMES in the country and they have begun to actively promote this pilot and scale it up.

**Ganhuyag Chuluun Hutagt** shared how the ADB is helping ARD Credit digitize its operations. He noted that by linking all the data on clients and better analyzing it ARD can make better informed credit decisions as well as cross-sell other products and services that better meet the needs of their customers. Pilot testing helps ARD Credit to better understand the benefits and fine tune the services before they are fully launched.

### What is the best approach to moving from pilot testing of new products and services to commercial launch?

**Tanya Hotchkiss** shared the importance of timing the new product or service implementation plan. The trade off of having a partner like the ADB is that although the process is a bit slower the bank is able to better document and monitor the pilot which helps as they replicate and scale the service.

**Giorgi Samadashvili** however ;pointed out the importance of maintaining an appropriate communication strategy not only with the staff, but more importantly with the clients.

### What are the lessons learned and what should innovators and those who invest in them look out for?

**Tanya Hotchkiss** shared the challenge of monitoring and evaluating the benefits of pilot testing and introduce a new technologies. She noted that this is actually one of the crucial elements of the pilot testing phase so it is important to invest in this effort and get it right.

**Giorgi Samadashvili** discussed the importance of focusing on the user experience. This is also key when the new financial technology is internal to the organization. Understanding the user experience from the staff perspective is critical. He highlighted the importance of speed in rolling out new internal financial technologies. The faster you can move to shift employees to understand and use the new technology, the better for the institution as a whole. The learning curve for staff is also important to understand. You have to put yourself in the shoes of the staff to better comprehend how complex the new technology is and also provide enough time for staff to adjust. .

Another essential lesson learned is that institutions offering new FinTech solutions have to be careful to make sure they invest the time and resources needed to train customers on the benefits and uses of the new technologies.

**Ganhuyag Chuluun Hutagt** warned that some new financial technologies such as crypto currencies. can lure customers to make risky decisions and potentially lose their savings. This is why it is also important to train customers not only on the benefits of new financial products and services but also on the risks. Their book on cryptocurrencies called :Digital Gincludes easy to understand graphics that help to educate consumers that start to use new financial technologies and tools.

### How does the ADB provide technical support to FinTechs?

The ADB has been providing support to start-up FinTechs via accelerator programs in some countries such as Vietnam. The ADB is flexible in terms of providing technical assistance to FinTechs and this can include pilot testing of prototypes or scaling up services. The ADB also works with regulators and policy makers and can play an honest broker between the FinTechs and regulators.



Session 3D panelists discussing the use of digital financial technologies in pilot projects.

# Day 2: 9 November 2017

## Welcome Address



**Ingrid Van Wees**  
Vice-President  
Finance and Risk Management  
Asian Development Bank

FinTech holds many opportunities as well as challenges. Recent developments in FinTech have resulted in the creative destruction of conventional banking and better, faster, more inclusive financial services. FinTech offers solutions for a more efficient, effective, and inclusive financial sector and supports countries in achieving sustainable development goals, especially goals in economic growth, ending poverty, and improving access to education, water, and energy.

Technology companies, backed by technological innovations, have seized opportunities and offered new solutions that banks have yet to embrace. FinTech leverages artificial intelligence and financial innovations to bring new technological solutions that can be delivered at lower cost.

One of the main learning objectives of the 2nd Asia Finance Forum is to understand opportunities and challenges, and answer the question: What is required to make it happen? How can ADB assist with meeting necessary preconditions for developing robust, inclusive economies and investing in promising FinTech solutions?

Neither governments, the ADB, nor the private sector can deliver on its own. The development community, governments, and the private sector must make a coordinated effort to harness the potential of FinTech and manage its risks. This underscores the importance of knowledge-sharing events.

ADB is working with the emerging FinTech sector, regulators and policy makers of Cambodia, Lao (People's Democratic Republic), Viet Nam, and Myanmar, for example, to address FinTech regulatory policies.

In Mongolia, ADB is helping to modernize the interbank payments system that supports the clearing and settlement of all interbank and payment service provider transactions. It is also working with the Bank of Mongolia to upgrade the retail payment infrastructure support systems

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*“Neither governments, the ADB, nor the private sector can deliver on its own. The development community, governments, and the private sector must make a coordinated effort to harness the potential of FinTech and manage its risks.”*

**Ingrid Van Wees**  
Vice-President  
Finance and Risk Management,  
Asian Development Bank

and assist the government in establishing the legal and regulatory framework necessary for a more inclusive economy.

In the Philippines, ADB is supporting Cantilan Bank to implement a cloud-based banking technology. The system, the first in the country, will demonstrate how digital services can unlock financial opportunities for the unbanked and unserved sectors of the population.

The sessions for Day 2 of the conference will focus on addressing the challenges in providing the needed infrastructure, innovative approaches to policy and regulation such as the test-and-learn approach, regulatory sandboxes, and the use of regulatory technologies (RegTech), and the importance of identification systems.

There will also be sessions on addressing risks. While FinTech provides opportunities, it also opens challenges and risks. The Asia and Pacific region is now more vulnerable to cyber exploitation because of rapidly growing connectivity, the digital transformation, low cybersecurity awareness, increasing cross border data transfers, and weak regulations.



ADB's VP van Wees welcomed the participants on the second day of the forum.

## Day 2 Keynote Opening Session: Digital Finance, Balancing Regulation and Policies



**Alfred Hannig**  
Executive Director  
Alliance for Financial Inclusion (AFI)

The AFI is made up of a network of 95 member countries which have increased access and quality of financial services for hundreds of millions of new financial service customers over recent years. Hannig emphasized that the theme of the conference, FinTech and the Sustainable Development Goals, is highly relevant as it aligns well with AFI's current focus.

The challenge for regulators and policy makers is always to ensure the balance between safeguarding the financial system as a whole at the same time as providing an enabling environment to support innovation and financial inclusion. Regulators must maintain prudential responsibilities, facilitate competitive non-monopolistic market development, ensure appropriate safety and soundness measures while enabling innovation, improve access and usage of financial services, deepen use cases, and improve the quality of financial services.

### The Power of Digital Financial Services

The recent study from the consultancy McKinsey Company highlights the important role that digital financial services have in driving financial inclusion. The study showed that digital financial services (DFS) have the potential to increase the gross domestic product (GDP) of developing and emerging countries by \$3.7 trillion (the equivalent of Germany's GDP) by 2025 as well as creating more than 95 million jobs.

Looking at the AFI network, the highest number of Maya Declarations to support financial inclusion are related to DFS. In fact, an impressive 75% of all Maya Declaration commitments include such targets.

However, there remains a digital divide in DFS. According to the Global Findex data from low- and middle-income countries, women are 36% less likely than men to use mobile money. Women are often disproportionately affected by barriers to both access and use of mobile technology for transformational services such as mobile money, which widens the divide. While there are potential economic incentives to address this gap, more investment needs to take place.

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*“While a lot of FinTech is “additive,” the real objective in supporting FinTech needs to focus on the “transformational” angle, extending access to the two billion people who are currently left out of the formal financial system.”*

**Alfred Hannig**  
Executive Director  
Alliance for Financial Inclusion (AFI)



Across the world we have witnessed a variety of bank-led and telco-led DFS models. However, in the Asia region, there has been a focus on bank-led DFS models. For instance, the most prominent Telco in Pakistan has developed its DFS models by investing in a microfinance bank. In Bangladesh, the regulator has helped to develop an agent banking framework that has dramatically increased financial access points in the country in a very short timeframe. Indonesia is likewise focused on expanding access through a variety of DFS and agent banking models, using several government-to-person approaches to facilitate greater uptake of DFS from targeted segments of population including women, micro entrepreneurs, and those in rural areas. Philippines is an early the DFS success story and one of the exceptions in the region, with access much of the early focus on enabling mobile-network-operator-based approaches to address access to financial services. But it is now increasingly focused on broad-based interoperable payment systems that include the entire financial services industry.

In the early days, when DFS focused on mobile financial services, we were introduced to the terms “additive” (offering additive existing financial services customers) and “transformational” (transforming the lives of those who were previously excluded). While a lot of FinTech is “additive,” the real objective in supporting FinTech needs to focus on the “transformational” angle, extending access to the two billion people who are currently left out of the formal financial system.

Many of these “transformational” innovations will enable emerging and developing countries to leapfrog access and usage of financial services. These innovations will also change the nature of financial markets and financial infrastructure as well as have significant implications for regulators and policy makers. We also see the need for improved collaboration across different regulators and government agencies, especially between financial regulators, telco regulators and Ministries for Internal Affairs who are oftentimes in charge of ensuring data security and protection. Systematic coordination and collaboration between these various bodies will continue to become a priority in light of the major focus on DFS innovations and financial inclusion. This is where National Financial Inclusion Strategies will also play a key role.

## Risks

There is no doubt that leveraging DFS and FinTech for financial inclusion goals come with new risks, whether these come from new challenges around unfair lending practices related to the use of big data, increased systemic vulnerabilities due to threats of cybersecurity or related risks associated with third-party players such as agents.

Yet we see—if effectively regulated and supervised—DFS can both strengthen financial stability and financial integrity. In particular, DFS can expand access to transactional accounts and broaden the deposit base which therefore can increase financial stability. Likewise, as has been recognized by the Financial Action Task Force, financial inclusion can also address financial integrity and by increasing transparency and reducing the risks of money laundering and terrorist financing. Increasingly, we witness that global standard setting bodies<sup>2</sup> are now providing support for a risk-based approach to DFS and the opening of the financial market to new nonbank financial institutions to continue to

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<sup>2</sup> The standard-setting bodies include the Basel Committee on Banking Supervision, Committee on the Global Financial System, Committee on Payments and Market Infrastructures, Financial Action Task Force on Money Laundering, Financial Stability Board, International Association of Deposit Insurers, International Association of Insurance Supervisors, International Accounting Standards Board, International Auditing and Assurance Standards Board, International Organisation of Pension Supervisors, International Organisation of Securities Commissions, and Islamic Financial Services Board.

expand options for financial markets and financial inclusion in general. However, more work needs to be done to coordinate efforts with standard setting bodies to better enable risk-based innovation that continues to focus on financial inclusion and this is where networks like AFI are important.

### In what ways can regulators and policy makers balance regulation and enable innovation?

**Test-and-learn approaches:** Measures such as the regulatory test-and-learn approach and now sandboxes along with the support of innovation, can help to better balance risks and provide an enabling environment for innovation. The Philippines is an early example of test and learn.

**Peer learning and knowledge sharing among regulators:** It is important for regulators and policy makers to learn from the experiences of their peers. Those who have been early pioneers and successfully introduced appropriate policies and regulations have important lessons to share with others who are looking to safely harness DFS in their respective markets.

**Provide additional regulatory guidance:** New regulatory policies that support greater access, usage, and quality of inclusive financial services need regional and global guidelines that take a proportionate risk-based approach. This includes support for digital identification, tiered KYC, and even opportunities from new regulatory technologies (RegTech).

**Support for National Financial Inclusion Strategies:** Publicly shared financial inclusion targets, collaboration, and coordination across national regulators and policy makers, as well as increased cooperation with the private sector through public and private dialogues, can be crucial to harness inclusive DFS.

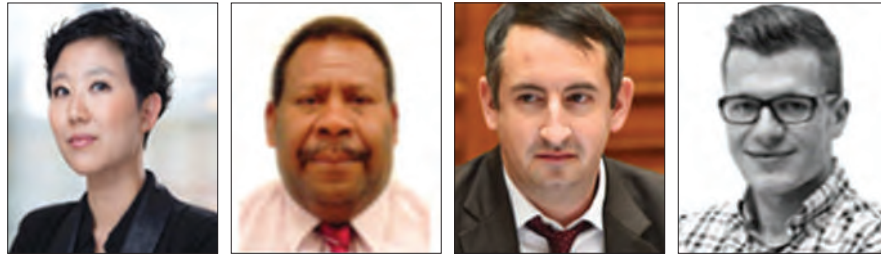
The signed agreement today between AFI and the Asian Development Bank will allow us to work jointly to support several of these recommendations. By joining forces and boosting technical cooperation for capacity building, regulators and policy makers can more rapidly harness DFS across the Asia Pacific region and fast track financial inclusion.



AFI's Executive Director Hannig delivered the keynote speech for the forum's second day.



## Session 4: Creating an Enabling FinTech Environment



### Moderator

**SungAh Lee**, Senior Program Officer, Bill & Melinda Gates Foundation

### Panelists

**Ellison Pidik**, Assistant Governor, Central Bank of Papua New Guinea

**Robin Newnham**, Head of Policy and Capacity Building, Alliance for Financial Inclusion

**Tobias Fischer**, Director of Corporate Development, Capital Match Holdings

FinTech is creating a whole new world of possibilities for the financial services sector. There are clear prospects for financial technologies to make the financial system even more efficient, effective, and resilient.

At the same time, however, innovations can generate systemic risks through increased interconnectedness and complexity, liquidity risks, increased operational risk, and opportunities for regulatory arbitrage. As those risks emerge, authorities will need to increase focus on the appropriateness of legal and regulatory frameworks, a broader commitment to regulatory coordination, and a more disciplined approach to operational and cyber-risks. To help realize FinTech's promise, policy makers and regulators in developing Asian countries need to create an enabling policy and regulatory environment to better support the rapid adoption of responsible DFS.

### What responsibility have digital financial services to support financial inclusion and what role does the regulator play?

As noted by SungAh Lee, DFS is key to driving financial inclusion. Regulators play a crucial role in supporting the development of responsible DFS. Important policies include support for ID systems; tiered approaches to KYC modernizing payment systems, including the establishment of more open national switches; and ensuring a level playing field for new and existing financial

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*“DFS is key to driving financial inclusion. Regulators play a crucial role in supporting the development of responsible DFS. Important policies include support for ID systems; tiered approaches to KYC modernizing payment systems, including the establishment of more open national switches; and ensuring a level playing field for new and existing financial service providers. Governments also play a key role by supporting the digitization of government disbursements/payments, working with industry to achieve interoperability, and drafting and adopting national financial inclusion strategies.”*

**SungAh Lee**  
Senior Program Officer  
Bill & Melinda Gates Foundation

service providers. Governments also play a key role by supporting the digitization of government disbursements/payments, working with industry to achieve interoperability, and drafting and adopting national financial inclusion strategies. National financial inclusion strategies, in particular, can be strong drivers of scaling DFS because they outline targets and contain roadmaps that all players, both in the public and private sector, can agree on.

For example, Ellison Pidik shared that Papua New Guinea anchored its Financial Inclusion Strategy on encouraging the development of responsible and inclusive DFS to reach the unbanked, while focusing on improving financial literacy. Similar to many emerging markets, 80% of Papua New Guinea's 8 million people live in rural areas where it is too expensive to deploy traditional bricks-and-mortar access points, so DFS solutions are the only way to reach most people cost effectively. These new policies have led to the opening of more than 2 million bank accounts, with over 70% opened by rural dwellers.

The central bank also recently instituted a policy that allowed technology providers, mobile network operators), and insurance companies to enter into partnership agreements, resulting in the launch of new insurance products. Citizens can now easily purchase a life insurance policy using their mobile phones. These new policies, combined with DFS innovations, have led to a significant increase in life and health insurance, with 80% (around 6.4 million) of the entire population, now covered by insurance.

### What are the key areas that policy makers and regulators need to focus on to provide enabling policy and regulation?

The convening power and the importance of public and private dialogue is among the most powerful tools regulators can use to work with industry stakeholders as they develop proportionate risk-based policies and regulations.

Regulators also need to balance safety and soundness and implement consumer protection guidelines. The Central Bank of Georgia is one regulator which has provided a balance between enabling DFS while advocating strong consumer protection measures. To better support this, they established a DFS Council, which included a broad range of public and private stakeholders that helped to focus on developing comprehensive consumer protection guidelines.

In terms of balancing financial inclusion and dealing with risks, Robin Newnham pointed out that Mexico's regulator has been seen as a pioneer in the implementation of a tiered risk-based approach to know-your-customer requirements, which enabled remote account opening for those who previously unbanked and unlocked new ways to access financing through new FinTech developments such as crowdfunding.

### What role have the test-and-learn and regulatory sandbox approaches played in enabling DFS?

Robin Newnham shared the fact that more than 25 Alliance for Financial Inclusion (AFI) member countries have developed, are developing, or are working on regulatory sandboxes. These all build on the original test-and-learn approach to regulation and supervision that was first deployed by regulators in Kenya and Philippines in the early days of electronic money. Today, the test-and-learn approaches have evolved into the more common practice of regulatory sandboxes which allow new and existing financial service providers and FinTechs to test new DFS solutions. Some of the examples

of alternative credit providers include crowdfunding and peer-to-peer lending in markets such as Mexico; the use of new approaches to biometric enabled financial services in Asia; and even to test new RegTech solutions to leverage technology to improve regulatory and supervisory responses in countries such as the Philippines.

Through test-and-learn and regulatory sandboxes, risks can be better managed, while the tremendous inclusive aspects of DFS can be tested. However, once DFS reaches scale, consumer protection and cybersecurity risks need to be addressed, so there is still the need to ensure that the right balance is achieved between risks and inclusion.

### **How can the development community and international organizations better support Asia's policy makers and regulators to enhance their ability to provide an appropriate policy and regulatory environment that enables responsible DFS?**

ADB already has a strong networking partnership with the development community and convening the power of stakeholders within the region. The facilitation and support for the exchange of cross-border fertilization of ideas and solutions that can be applied in different markets is one of the best investments ADB can make. Helping to scale initiatives in the region is another way that ADB can play a catalytic role through various "smart" investments that leverage DFS solutions to better address issues such as the Sustainable Development Goals.

Partnerships with those who have experience working with regulators and policy makers and who can share global experiences in regional settings can also be a good initiative for the ADB to fast track responsible DFS policies and regulations in the region. This is where the new memorandum of understanding with groups like AFI can also be effectively leveraged.

### **How are you addressing the issue of financial access points, especially in remote areas?**

Financial regulators have been addressing the lack of physical financial access points, mostly by enabling partnerships with third-party agent networks. The Central Bank of Brazil was one of the first countries in the world to pioneer the use of third-party banking agents and is a good place for other policy makers and regulators to visit and learn from. Now many countries from the region are expanding agent banking, including Bangladesh, Indonesia, Pakistan, and Papua New Guinea. However, it was noted that developing trust and confidence in agent networks is not easy and still requires a lot of investment and education of consumers.

New FinTech opportunities need to continue to be explored to take advantage of new ways to reach customers. Developments in the field of e-commerce across the region offer some of the best new ways to fast track the adoption of inclusive DFS services, especially in markets such as the People's Republic of China and India. Public and private sector dialogues with potential third-party agent networks can also help to speed up this process.

### **What are key obstacles and challenges in setting up and implementing a National Financial Inclusion Strategy that effectively harnesses DFS?**

National coordination is a key challenge and working out the right structure that can oversee the implementation process and strategy for financial inclusion is very important at the outset. This

involves not only convening the different private sector agencies/stakeholders involved, but also working out the right forms of engagement. The other big challenge is always in maintaining the momentum and political will to launch and maintain National Financial Inclusion Strategies over the medium to long-term.

### What are good examples and lessons learned for regulatory peer learning and public–private sector dialogues?

The Pacific Island Regional Initiative supported by seven AFI member countries is a good example for other regulators to learn from in terms of regional coordination and peer learning. This group meets twice annually to exchange information on policies, interact with residents, learn from experts, and share experiences.

From his own experience, Tobias Fischer shared the view that in order for public–private sector dialogues to be productive, one of the key lessons is ensuring that everybody sitting around the table understands the problems before starting the dialogue. Leveling expectations is also important. Private sector participants tend to move faster and have shorter innovation cycles than public sector policy makers and regulators. It is, therefore, crucial to create a shared vision and understanding and manage timeline expectations.



Session 4 panelists discussed the role of regulatory sandboxes to allow businesses to test innovative products and delivery mechanisms.

## Session 5: Infrastructure and FinTech



### Moderator

**Carolyn Dedolph Cabrera**, Principal Knowledge Sharing & Services Specialist, ADB

### Panelists

**Lowell Campbell**, Principal Global Specialist Digital Financial Services, IFC

**Enkhsaikhan Munkhjargalan**, VP Consumer Product Marketing, MobiCom, Mongolia

**Muhammad Arif Sargana**, Director, Pakistan Telecom Authority

**Yongping Zhai**, Chief of Energy Sector Group, Asian Development Bank

Key foundational infrastructure needed to support financial innovations include: (i) access to energy; (ii) appropriate information and communications technology (ICT) infrastructure; (iii) open and efficient payment infrastructure; and (iv) identification infrastructure. During this session, the panelists discussed the key infrastructure related prerequisites and how best to ensure these are in place or addressed to enable better and harness FinTech innovations.

### Access to Energy

As noted by Yongping Zhai, digital payment mechanisms, by their very nature, depend on reliable electricity supply, something that is often a challenge in remote and rural areas in developing countries. Sufficient access to electricity is especially relevant for ATM deployments and convenient and low-cost solutions to charge mobile phones and cell sites is needed to harness the potential of mobile-enabled financial services.

Over 1 billion people still do not have access to stable electricity in Asia. Most live in remote areas, including many who live in islands across the Association of Southeast Asian Nations and the Pacific region. However, to provide access to electricity to 70% of one billion people would require looking beyond the grid, employing new technologies and a decentralized distributing system without access to the national grid. Access to affordable energy is indeed necessary infrastructure for digital payments and harnessing FinTech innovation. But this must go hand in hand with appropriate ICT infrastructure.

### Appropriate ICT Infrastructure

Muhammad Arif Sargana pointed out that mobile phone networks and ICT infrastructure often do not appropriately cover sparsely populated, rural areas where they are most needed to enable mobile and digital payment solutions. Unreliable or non-existent ICT infrastructure coverage is a key barrier to both access and use of digital payment ecosystems. In Pakistan, it was noted that even though people had electricity and mobile phones they were not able to access services since the ICT infrastructure



(mobile signal strength) was lacking. Providing both access to energy and affordable ICT infrastructure in remote areas will require some smart subsidies or government interventions to ensure this takes place. For policy makers, increased competition and conditional licensing requirements can improve access to affordable ICT infrastructure, even in rural areas.

Enkhsaikhan Munkhjargalan shared the experiences of Mobicom, a private mobile operator in Mongolia, which started focusing on towns and cities as a business decision and matter of survival. However, the government of Mongolia wanted to ensure greater access to ICT in remote areas, and they introduced the concept of universal service funds to provide smart subsidies to ensure affordable access to ICT in remote areas. These types of smart tax initiatives are useful examples for other policy makers to learn from to service clients in hard-to-reach areas.

Today, 90% of Mongolia is adequately covered by mobile network operators. To achieve this, Mongolia implemented the Universal Service Fund, which requires operators wishing to obtain a license to also commit to covering rural areas within a given timeframe as a condition of being granted a license. This encouraged competition, resulting in expansion in more rural areas.

Muhammad Arif Sargana shared the fact that Pakistan's Universal Service Fund, like Mongolia's, provides support/subsidies to the mobile network and broadband operators to expand and provide service to unserved areas. The subsidy program has also encouraged expansion even in rural areas where electricity is limited as operators were able to utilize the subsidies to invest in solar powered cell sites.

### What are the options for regulators and policy makers to provide a level playing field and provide speed of access to broadband?

- Commercial participants are the only ones that ultimately ensure access, so it is essential to create a competitive environment.
- It is also useful to benchmark broadband speeds with neighboring countries to ensure that providers are keeping up with regional and global trends
- Since the commercial interests of the providers drive investments, it is vital for government to support infrastructure as well by ensuring that broadband spectrum is available. Regulators can also enforce outreach and level of service standards that should be included as key performance indicators in all licensing agreements.

### Enabling Regulatory Environment

Digital payment mechanisms can be more efficiently offered if basic payment infrastructure is in place and can be leveraged for that purpose. In Pakistan, the Telecommunications Authority and the State Bank of Pakistan effectively addressed issues of regulatory overlap to support an appropriate enabling environment for DFS more effectively. The two regulators signed a memorandum of agreement after 2 years of high-level dialogue. The joint agreement recognized the central bank as the lead financial regulator with the telecom regulator overseeing telecom and ICT infrastructure needed to support digital financial services.

Joint regulatory coordination laid the groundwork to facilitate DFS interoperability and helped develop a new switch that facilitated digital payments between banks and other financial service providers that were facilitated through mobile network operators.

## Digital and Biometric Identification Infrastructure

As highlighted by Lowell Campbell, adequate access to identification infrastructure plays an important role in supporting FinTech use, as well as greater access to digital financial services. Identification and know your customer (KYC) are key enablers to support digital financial services. From a regulator's perspective, if we want to have clients "save, borrow or invest money, we need to look at how to address challenges around facilitating KYC."

India's Aadhaar program is one of the best examples of how new digital technologies can be harnessed to enable improved identification infrastructure. While some markets have developed extensive national ID infrastructure, other countries are still lagging behind and this affects digital financial service uptake. For example, in a market like the Philippines, where a unified national ID system is not in place, there are challenges in addressing greater financial inclusion. This also significantly hampers the uptake of DFS.

### How effective is biometric identification in combatting fraud?

In Pakistan, the use of biometric identification is critical. Back in 2013, the Pakistan government did not impose any obligation on identification. Now all mobile network operators are compelled to confirm and verify all SIMs biometrically. All operators were getting serious complaints even though only small amounts can be transferred via mobile e-money accounts, so fraud was still an issue. Kidnapping and the use of anonymous mobile e-money accounts to pay ransoms were previously an occasional problem as well. Now that all SIMs and digital e-money accounts have to be identified using biometric identification, there has been a rapid reduction in illegal activities transacted using e-money.

### Top Prerequisites to Address to Support DFS

It is important to lay the appropriate foundations to harness the benefits of a digital payment ecosystem. Policy makers and regulators need to understand the prerequisite infrastructure needed to analyze their markets to determine what is missing and what steps to take to lay a proper enabling foundation. The overall approach should include a review of digital payment infrastructure; access points (where to open and cash-in and cash-out of a transactional account), the use cases (what services are the most important and what is affecting their uptake) and then how to ensure quality of financial services (responsible and affordable services that meet business/consumer needs).

For example, in Pakistan, the growth and variety of different DFS services have been impressive. While broadband infrastructure has grown tremendously, more needs to be done to address internet access, especially in rural areas. Another key issue is digital and financial literacy not only to support uptake and usage, but also to ensure better quality of DFS. In addition, to encourage innovation and uptake, Pakistan's DFS stakeholders have held challenge competitions at universities to develop new mobile-enabled DFS applications. This has resulted in several new innovative use cases that have improved uptake of DFS.

### What are your top prerequisite infrastructure priorities to enable DFS?

- Access to energy challenges are similar to the difficulties in better supporting ICT infrastructure. Both have similar issues in the more difficult and hard-to-reach rural areas and those with lower population densities. For example, governments are always looking for innovations and new



business models that can help provide energy access in remote areas. Conventional centralized approaches to providing access to energy will not reach remote areas. Instead, decentralized approaches and those that rely on innovations like solar energy are showing the most promise in rural areas. An example of a FinTech application that can also help to improve access to energy is the Asian Development Bank's involvement with a provider that is offering solar powered off-grid energy access and using mobile e-money platforms to facilitate payments.

- Another issue is understanding and balancing supply with demand. Policy makers need to understand better what consumers want (the demand side) and how much they are willing to pay for it. In addition, instead of just focusing on what people want, it is important first to ask what they need to satisfy their real needs as well as to better plan in terms of economic and population growth to ensure that supply can keep up with demand.
- Providing solutions for the complex and challenging situation in low population rural areas requires a collaborative approach, with public and private sector partnerships as well as dialogues with regulators to come up with "smart incentives" and "smart policies" advantageous to both providers and the public at large.

### There is a growing global shift to smart phones, how long do you think it will take before feature phones are phased out of markets?

- In Mongolia, although there has been a shift to smart phones, we expect feature phones to still be around for the next 10 years.
- Many people are still using feature phones so they cannot be ignored and should still be supported by DFS providers. So USSD channels will still be needed for the time being.



Session 5 panelists talked about the infrastructure prerequisites needed to harness the potential of FinTech.

## Session 6: Accelerating Financial Inclusion: The Role of Digital Identification Systems



### Moderator

**Arup Chatterjee**, Principal Financial Sector Specialist, SDCC, Asian Development Bank

### Panelists

**Carol Benson**, Chief Executive Officer, Glenbrook

**Anir Chowdhury**, Policy Advisor (Access to Information) Program, Prime Minister's Office, Bangladesh

**Chuchi G. Fonacier**, Deputy Governor, Supervision and Examination Sector, Bangko Sentral ng Pilipinas

**Anil Kumar Gupta**, Associate Director, Microsave

FinTech solutions need to meet stringent know-your-customer (KYC) processes to prevent criminals from using banking channels for money laundering and financing of terrorism. In addition to verifying whether the user of the device is authenticated, financial service providers also need to be sure that the device itself is identified and authorized. The verification process also protects the consumer against cybercrime and helps to ensure the privacy and security of users' identities. Governments are increasingly opting for "technology agnostic" national digital identity systems to improve the efficiency of the digital identification processes, using biometric verification (fingerprint, facial, and iris) to minimize the costs and regulatory burden of customer authentication for financial services firms. The recognition and standardizing of digital identity systems and integrating and improving payment efficiency are important initiatives to improve and better facilitate payment infrastructure as well as support innovation and financial inclusion.

### What are the opportunities and challenges of national digital identification systems and the use of tiered KYC to support digital financial services?

Carol Benson highlighted that Ant Financial's 3-1-0 service model for their digital credit products promises 3 minutes to determine how much credit a customer can receive, 1 second to get the money out, and zero human involvement. What

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*"The challenge is when we look at the goals that we have set for financial inclusion, and we look at where we are today, there is a very big gap. We need to figure at how to achieve scale and ensure speed to provide inclusive financial services."*

**Carol Benson**  
Chief Executive Officer  
Glenbrook

is interesting in looking at this model is that providing credit is riskier than opening a transactional account. So, if Ant Financial can analyze credit worthiness and risk and lend money in 3 minutes and 1 second, then other financial service providers should be able to open up a transactional savings account in less time.

There is a need, however, to adjust frameworks and standards on KYC. KYC can be broken down into two parts: (i) who is your customer? and, (ii) what are they doing? Bangladesh, India, and Peru are already implementing new tiered-KYC frameworks that are risk-based and allow for small-value, low-risk accounts to be opened up easily and remotely.

KYC protocols are beginning to shift from being the responsibility of the financial institutions to the government. Since governments are the ones that provide for national identification systems, they should also make it easier to access this information and facilitate the opening of financial accounts, especially small-value, low-risk accounts.

The other half of KYC—which will continue to be the financial institutions' responsibility—is knowing what is done with the money in the account.

Algorithmic analysis and big data can be leveraged to handle this much more effectively than manual systems. The Gates Foundation's vision for the Level One Project includes centralizing the management of payment systems and utilizing highly efficient algorithms.

The combination of instant account opening and algorithmically determined analysis of how the money is being used can potentially bring digital financial services to scale more quickly.

## Designing Digital National Identification Systems: Lessons Learned from Bangladesh

Anil Kumar Gupta—As technologists and policy makers, we do not think about citizens enough. To illustrate, here are three profiles of the underbanked and unbanked:

- A 90-year-old woman whose only income is the monthly pension she is receiving from the government. She must be accompanied by a relative, which means she needs to spend additional money for transportation. She also has to stand in a queue for hours. The valid questions are: Are government-to-person points in close proximity? What can she do with the money? How will she use it? What is her spending behavior?

*“The Bill & Melinda Gates Foundation has developed the Level One Project, an initiative intended to enable country-level digital financial systems that brings the poor into the greater economy for the benefit of all. The vision for the Level One Project is to create a more level playing field with an economy that includes everyone, and in which everyone benefits—the poor, bankers, mobile operators, payment technology companies, the government, and more. At the heart of the Level One Project Guide is a national digital financial services system, enabled by shared, open, standards-based components, including an interoperable service for transfers, and fraud and risk management services. The system is governed by its direct participants: the providers of end-user digital financial services, who offer account opening services, consumer and agent management services, and merchant digital payment services. These players connect with traditional payment service providers to ensure that payment services are integrated at a national (or even regional) level and can flow across the system.”*

### The Level One Project Guide

- Salma is partially banked and gets a significant sum from her husband in Malaysia. A mobile financial services cash-out agent is nearby but challenges still include (i) she has to make three trips per month to get the money because there are caps to how much money she can withdraw each time, (ii) she does not spend all the money so she has to put her excess funds in a deposit account, which the mobile financial service does not provide. She then has to travel 8 kilometers away to deposit money into her savings account as there is no way for her to transfer funds electronically to the bank.
- A visually disabled person has a small value account which the central bank introduced a few years ago, but he cannot use the card because he is visually impaired.

Perspectives of financial inclusion differ between providers (savings, loans, insurance) and the poor, meaning there is a disconnect between the product development stage and what the poor need and can use.

Anir Chowdhury shared the experiences of Bangladesh which identified two crucial tasks to enable financial inclusion: (i) establish identities and (ii) provide access (digital financial transaction points). The government is creating a standard financial identification system to facilitate the opening of banking accounts using a more interoperable financial system, by supporting the linking of national Identification systems to the payment switch. In the future, the aim is to ensure that any citizen who registers to vote will also get a bank account.

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*“The Consultative Group to Assist the Poor conducted a study 3 years ago in Bangladesh to explore what would be the impact of digitizing all social benefits paid by the government. The results demonstrated significant potential to save time and money for the public. Digitizing social benefits would reduce the time for clients to receive their benefits by 58%, saving more than 91 million hours, a 30% reduction in costs, saving \$20 million and 80% reduction in the number of visits.”*

**Anir Chowdhury**  
Policy Advisor  
(Access to Information) Program  
Prime Minister’s Office, Bangladesh

## Lack of a National Identification System: Lessons from the Philippines

Chuchi G. Fonacier noted that the Bangko Sentral ng Pilipinas has been advocating for financial inclusion, but the lack of a national Identification system is a significant barrier. It has addressed this challenge, by issuing various circulars to allow financial institutions to open financial accounts via tiered-KYC procedures and the acceptance of different alternative ID.

While this has helped some clients, a significant number are still outside the banking system, evidenced by the 31.3% banking penetration rate.

In 2017, Bangko Sentral ng Pilipinas issued a new circular to allow banks to serve clients through contracted agents to accept and disburse cash on their behalf, facilitate online self-service deposits, withdrawals and fund transfers, bill payment, and facilitate remote account opening by performing KYC procedures and collecting and forward loan and savings account applications.

A new bill seeking to create a national identification system in the Philippines is expected to be signed into law in 2018. The new system is expected to ensure universal coverage, data integrity, security, and would serve as an enabling platform for the efficient delivery of a range of services.

### Bangko Sentral ng Pilipinas Financial Inclusion Roadmap

Regulations alone are insufficient. The digital ecosystem needs to be accessible and the facilitation of onboarding of the unbanked need to be identified and put in place.

- **Infrastructure:** Digital connectivity infrastructure is among the key components of a digital payment ecosystem. In remote areas, if there is no internet connectivity, digital financial services cannot be delivered.
- **National ID system:** Having a universal digital ID system is also critical. The central bank is working to put the system in place. The initial proposal, however, is not on a functional ID System (that is, a driver's license or cards issued by the other national government agencies like the Social Security System, Government Service Insurance System) but a basic, foundational ID system that carries the basic information to establish the identity of the person (name, gender, address). This can later be linked to an account.
- A fully functioning **credit information system**.
- A **national retail payment system** to facilitate transactions. The system, launched in 2015, is designed to create an interoperable digital payment ecosystem allowing seamless electronic fund transfers and payments between accounts.

In addition, the government has prioritized the operationalization of the new credit information system which will include positive and negative data from banks, cooperatives, and mobile network operators, under the aegis of the Credit Information Corporation.

To support interoperable digital payments, the central bank worked with industry to develop the first automated clearing house under the national retail payment system, PesoNet, launched 2017. The PesoNet automated clearing house covers the batch electronic fund transfers system and is being positioned to replace the paper-based check system. A second automated clearing house, the real-time credit push value payment system, Instapay, will be launched in 2018.

Under the national retail payment system, a payment system management body, led by the private sector, was formed to oversee the overall payment system in the country.

Bangko Sentral ng Pilipinas is envisioning a future where anyone can apply for credit within minutes using only their mobile phone. A national ID and the real-time credit push payment switch will be two critical factors that will need to be in place to make this a reality.

The central bank also allowed new approaches to verify customers using technologies such as FaceTime or through social media accounts for the low-risk accounts. The tiered-KYC approach allows small-value low-risk accounts to be easily opened to cater to the unbanked sector, which previously were unable to access financial services because they did not have official ID and therefore were unable to establish identity.

### What challenges do you foresee in implementing a digital national ID system?

Bangladesh has different types of ID. The national ID emerged from the voters' ID, implemented 10 years ago, which means only citizens above 18 have ID. However, ID systems also need to be available to young people, so countries like Bangladesh are looking at broadening ID systems to look



at ID being issued at birth as well as when students are enrolled in school. The promise of digital ID that is biometrically enabled can also facilitate and authenticate users to streamline small value payments.

## Should national digital identification systems be biometrically enabled?

Yes, the benefits of biometric identification are overwhelming when it comes to digital payments and enabling financial inclusion.

## How do we address security compromises in a biometric system?

As Carol Benson shared, there are many ways to safeguard digital national ID systems. A wide range of biometric feature recognition technologies are available to governments, and the private sector depending on costs and local infrastructure. If a biometric system is compromised, it is just like getting your password compromised. One safeguard is multiple factor authentication. Biometric gives you the first factor. There can be other factors, such as one-time passwords or voice recognition. Technologies are evolving rapidly, and policy makers need to stay informed. Constant dialogue and work with the private sector and even educating the public is essential as well.

*“We are learning, as different approaches are taken by different countries, what is emerging is that it makes sense that the national ID has very minimal information in it, just the bare minimum amount of information and that it be sensibly linked to others that carry the information. Five years ago, there were implementations which were the opposite and a great deal of identity information was being collected at the time of registration and I think that has proven to be a less optimal design.”*

**Carol Benson**  
Chief Executive Officer  
Glenbrook

## What about data privacy issues?

The Philippines has a Data Privacy Act, and the Bangko Sentral ng Pilipinas is coordinating with the National Privacy Commission on the guidelines. As mentioned earlier, the Philippines is following the new approach to national ID by storing only basic information, such as name, birth date, and ID number to avoid concerns about privacy.

### Takeaways:

Rolling out a digital national ID system to support financial services requires an ongoing public-private dialogue

Sharing lessons learned from other countries is essential

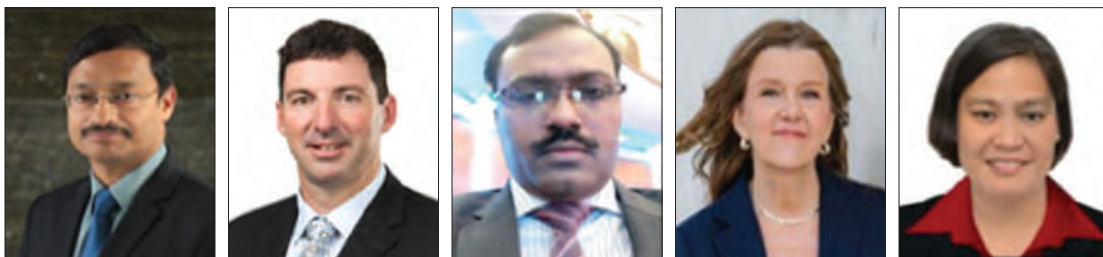
The goal of financial inclusion is linked to the need for functional national ID systems





The Session 6 panelists discussed on the role of digital identification systems.

## Session 7A: Challenges of Cyber Security for FinTech Operations



### Moderator

**Anil Kumar Gupta**, Associate Director, MicroSave

### Panelists

**Nigel Phair**, Director, UNSW Canberra Cyber

**Md. Arfe Elahi**, IT Manager, Access to Information Program

**JoAnn Barefoot**, Founder and CEO, Barefoot Innovation Group

**Charmaine Valmonte**, Head, IT Risk Management & Resiliency Unit, Union Bank of the Philippines

Anil Kumar Gupta opened the session by sharing the fact that the complex financial sector is increasingly vulnerable to cyberattacks, especially as multiple new FinTech players interconnect with traditional players. Transactions that used to take days between financial providers now take seconds. Moreover, the current financial governance framework is led by a combination of financial regulators and corporate boards, which often struggle to keep up with new cyber technologies and security risks. Criminals are also getting increasingly bold as new fast connections make cybercrime more tempting. Besides causing immediate financial losses, breaches can undermine longer-term confidence in new solutions, leading to lower adoption rates—particularly among users with less experience engaging with digital services. The cybersecurity decisions of today will define our FinTech tomorrow.

### What are the pressing cybersecurity issues today?

According to Nigel Phair, the most important concerns that affect customers include vulnerability to identity theft and account take-over, the spread of propaganda and false information, poor user experience, and the potential of cybersecurity risks to undermine public confidence in using digital financial services. FinTech must take a proactive stance in communicating with and educating customers on the basic protective measures to better mitigate vulnerabilities.

At the same time, FinTech needs to continuously strengthen the security of their platforms by securing their firewalls and acquiring security software, in addition to adopting multi-factor authentication systems, including the incorporation of biometrics. It is also important to note that even while cybersecurity measures continue to evolve to better address risk mitigation, no digital platform is without risks. Regulators working with the financial sector are therefore always going to be in a balancing act to ensure the safety and integrity of the systems against the most pressing risk issues.

Spending time educating consumers is one of the most important steps that all FinTech players should invest in. This type of education needs to go beyond basic information and passwords as the greatest vulnerability is the consumer making mistakes because of lack of information.

However, Md. Arfe Elahi pointed out that cybersecurity should also be approached in terms of an appropriate risk management process. This is analogous to the evolution of road safety and the car industry. When cars were introduced, they were highly unsafe but, increasingly, safety measures were instituted: seatbelts, licensing systems, penalties under the licensing system, random breath testing, drug testing, driver education, airbags, and star rating for cars. While this has dramatically reduced the number of accidents and fatalities on the road, these still do happen. When we take this same experience to deal with digital financial services and cybersecurity, it means that all precautions must be taken to minimize risk but understand that it will not eliminate all risks. FinTech providers should prioritize giving customers a good, safe, and responsible user experience.

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*“Do not treat cyber security as a technical issue but as governance issue.”*

**Md. Arfe Elahi**  
IT Manager  
Access to Information Program

### What examples and identified cybersecurity weaknesses can we learn from?

FinTech has leapt ahead and innovations are unstoppable. The panel discussions underscored that alongside the rapid progress and continuing innovations, cybersecurity breaches have become bigger and bolder. More recent examples of security breaches in Bangladesh and India have bared gaps and weaknesses in e-commerce systems, technology selection, and regulatory mechanisms for

information and communication technology (ICT) audits. The essential role of regulators cannot be overemphasized. Regulators must be proactive and can provide regulatory solutions that balance the need to ensure better security in the FinTech industry and protect consumers while providing space for innovations to thrive.

### Cybersecurity Facts and Statistics

\$400 billion—estimated cost to business due to cyberattacks in 2015

\$202 billion—expected investments for cybersecurity in 2020

\$2.1 trillion—estimated cost of cybercrime in 2019 globally

25% of respondents think cyber-risk is the top threat in the financial services industry\*

\$21.84 billion—estimated losses due to debit/credit card fraud in 2015 \*\*

\* Source: Capgemini Financial Services Analysis 2016; Systemic Risk Barometer Overview, DTCC, Q1 2016, Cybercrime Cost Projected to reach \$2 trillion by 2019, Steve Morgan, Forbes, January 17, 2016 accessed November 2016 at <https://www.forbes.com/sites/stevemorgan/2016/01/17/cybercrime-costs-projected-to-reach-2-trillion-by-2019/#b689a963a913>

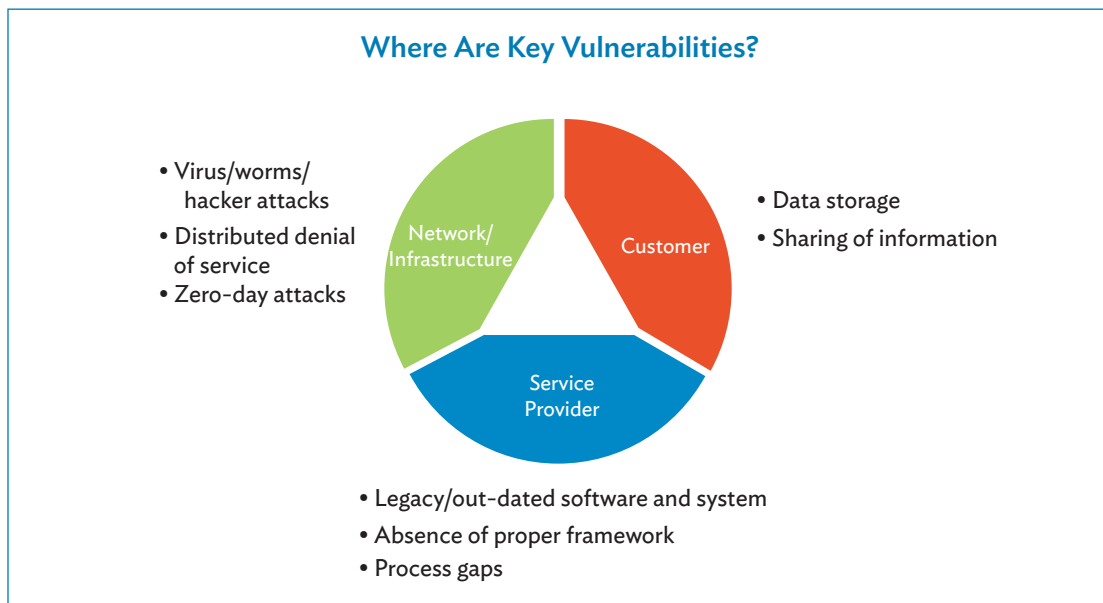
\*\* Nielsen Report, October 2016

JoAnn Barefoot noted that security against cyber-risks requires active collaboration and information sharing (standards, best practices, red flag warnings) among banks, regulators, FinTech providers, and also consumers. Providing a continuing flow of information to consumers, mainly through social media, can be essential for helping transition consumer behavior from awareness of security measures to taking proactive action.

Two recent cybersecurity breaches highlight pressing cybersecurity weakness. These include the Bangladesh Bank heist and the compromising of 6 million Visa/MasterCard/RuPay debit cards in India. These examples exposed four weaknesses: (i) poor information sharing (there was no common platform where government and the private sector shared cybersecurity threats), (ii) the gap in e-commerce systems, (iii) technology selection, and (iv) the lack of regulatory/oversight mechanisms in place for ICT audits.

In response, regulators and government took the following measures:

- formation of an information security alliance in which cybersecurity experts share knowledge;
- enactment of the Digital Security Act in Bangladesh;
- establishment of digital forensic laboratories at 11 universities, teaching students how to gather evidence and build cases against cyber criminals; and
- a strategic plan for cybersecurity.



## What are some of the options for governments and regulators?

Governments should work harder to push the banking industry to phase out and upgrade legacy systems and ensure standards for cybersecurity. With the new financial technologies, financial service providers have better data and better security options. Regulators should be a step ahead of new cybersecurity risks. At the same time, they need to balance new regulations that do not stifle innovation with protecting customers.

## What are the options for the private sector to proactively address these issues?

Charmaine Valmonte shared how the Philippines formed an Information Security Officers' group under the Bankers Association of the Philippines in which red flags and data security threats are shared regularly. Private organizations, whether banks or FinTechs, should ideally embed risk management at the ideation stage, not after, and be proactive about addressing risks. Management needs to be forward thinking and view due diligence as ongoing.

## Can you offer insights into how to get organizations and their clients to focus on security and ensure that they are taking proactive steps?

Cybersecurity risks are seen as a game of chance, and top management do not always see spending on prevention as providing a good return on their

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*“Try to move towards new technology. Be in the cloud, don't be in the server room, redesign your systems using today's technology. We are in a gigantic effort of moving from analog to digital financial services and regulation. Every time you try to solve a problem by putting a patch on your old system to make it last longer is taking away to getting to a better system that is working and more secure.”*

**JoAnn Barefoot**  
Founder and CEO  
Barefoot Innovation Group

investment. Appreciation starts with education, and we need to put relevant information out—for instance, how many malicious ads or dodgy apps are out there, how many attempted attacks on financial service provider servers have occurred in the past hour. Educating the next generation, the digital natives, who are growing up in the digital world, to be good digital citizens is essential.

In terms of customers, there is rarely above-the-line campaign to create awareness for cybersecurity. Social media can be used to create awareness. Behavioral change takes time, and the more people are exposed to information, taking steps to ensure online/mobile security becomes a habit.

### If you were the head of information technology of a bank, how would you conduct due diligence on your FinTech partner and how long would it take?

There are risks to any partnership, and it is standard procedure to do due diligence and vetting of partners. If time-to-market is critical and the proposed partnership has huge potential, an abbreviated due diligence packet can be conducted where initial risks are managed and validation of controls are expanded as the services increase. Complying with the requirements of regulators, however, is nonnegotiable.

### How do banks and FinTech enter into partnerships and how should they agree on security standards?

The main value proposition of banks is trust and security. The top four Australian banks collaborate closely on security through a trust and information-sharing approach to set security standards and ensure compliance. Nationally, there should be security standards, especially as the financial system becomes more interoperable and interconnected with new nonbank players.

Banks and FinTechs have complementary strengths and weaknesses and they should come together. The marrying of innovative FinTech with banks will leverage banks' low cost of funds, access to the payment systems, and customer bases with FinTech's abilities to ease customer acquisition, support innovative culture, and gain better customer experience. At the same time, regulators need to ensure that all players invest in and provide adequate resources to ensure appropriate levels of cybersecurity.

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*“UnionBank is keeping the regulator continuously informed of what we want to do—this is what we’re thinking of doing—can we do it—at every stage. We’ve taken out the waterfall project management methodology and taken up the agile way of thinking because we understand that is how FinTechs are built. Is it better in the FinTech space than in the bank? Technically, yes. It’s a smaller organization, there’s newer equipment, and security has been built in.”*

**Charmaine Valmonte**

*Head, IT Risk Management & Resiliency Unit  
Union Bank of the Philippines*

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*“UnionBank in the Philippines has a FinTech business group that scans the FinTech landscape for opportunities for partnership. UnionBank positions itself as the back end service to remittance companies and FinTechs, providing efficiencies and the ability to disburse funds.”*

**Charmaine Valmonte**

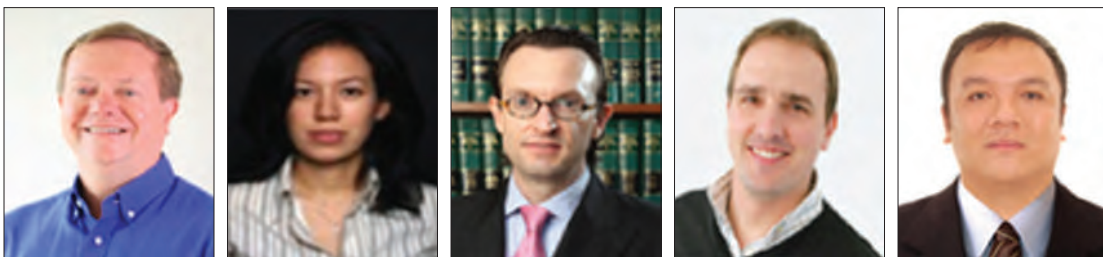
*Head, IT Risk Management & Resiliency Unit  
Union Bank of the Philippines*





Session 7A panelists answered questions from the audience on cybersecurity.

## Session 7B: Test-and-Learn Approaches, Regulatory Sandboxes, and RegTech—The Story So Far



### Moderator

**John Owens**, Senior Digital Financial Services Advisor

### Panelists

**Tanya Hotchkiss**, Executive Vice-President, Cantilan Bank

**Douglas W. Arner**, Kerry Holdings Professor in Law, University of Hong Kong

**Antonio Separovic**, Managing Director, Oradian

**Melchor T. Plabasan**, Deputy Director and Head, Core Information Technology Specialist Group, Bangko Sentral ng Pilipinas



The test-and-learn and regulatory sandbox approaches to new financial technologies have proven useful tools for the wider FinTech industry in various jurisdictions. These approaches allow firms to experiment with FinTech while providing appropriate safeguards to contain the consequences of failure or large-scale risks. New entrants to the financial services market as well as existing players can use lighter-touch regulatory approvals to test products, services, business models, and delivery options without first needing to meet normal regulatory requirements and incurring the considerable costs of putting in place the complex structures and processes to successfully apply for full-scale authorization. Bangko Sentral ng Pilipinas was the first central bank to experiment with the test-and-learn regulatory approach in Asia. Over the past 2 years, there has been a wave of central banks across the region, including Australia; Hong Kong, China; Indonesia; Malaysia; Singapore; and Thailand that have launched or are launching regulatory sandboxes.

In addition, complying with regulatory requirements has now made many regulators look at the promise of regulatory technologies (RegTech) to offer better speed, security, and agility to address compliance. RegTech is also allowing innovative scalable, mobile-friendly solutions and rapid, low-cost cloud deployments to improve risk management, transaction monitoring, regulatory compliance, reporting, and analytics. RegTech can also enable controls such as improved transaction monitoring, on-demand reporting, and new comprehensive data analytics, not only on consumer uptake, usage, and trends but also on various risk and protection issues. It also has potential for conducting risk assessments faster and providing better audit trails.

### Doug, what are your thoughts on sandboxes and the new developments in RegTech?

There are two different but related issues. First, how do regulators regulate and oversee new financial technologies as well as new players? Second, how do you use technology in regulation/supervision? After the global financial crisis, regulators got much stricter in setting compliance standards for the financial sector. However, over the past decade regulators and policy makers have seen the role that new financial technologies and new providers can play to improve access to financial services and, more broadly, enable financial inclusion.

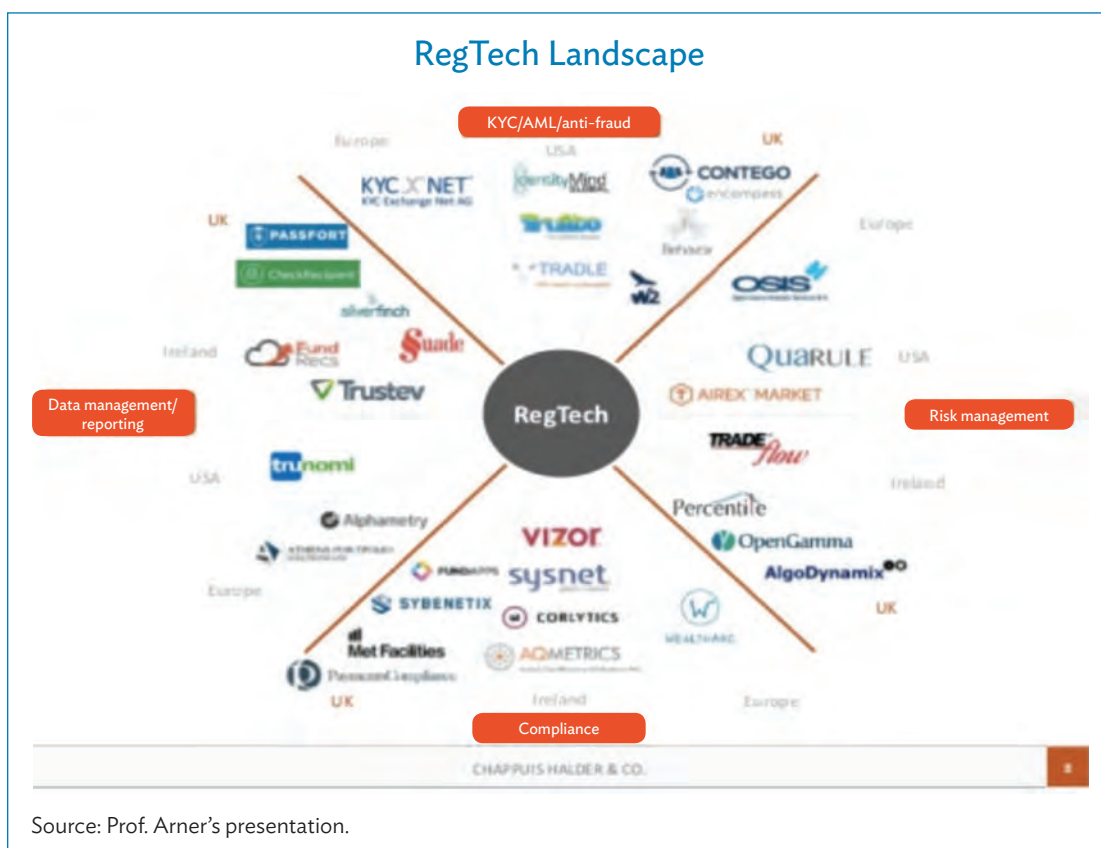
There is also a big spectrum of approaches to regulation around the world. At one end, is the “do nothing approach”. Before 2015, the People’s Republic of China allowed certain digital financial service providers such as peer-to-peer lenders without the need for regulatory approval. But this changed in 2015. Another approach along the spectrum is the flexible regulatory approach, such as the test-and-learn model that allows for innovative products and players to pilot test new products often under letters of no objection. Continuing along the spectrum is the more structured regulatory sandbox, where rules of engagement are more clearly laid out. Under both the test-and-learn and regulatory sandbox approaches is the underlying objective of interactive learning about what is possible, where the risks may be, and how to address them. These two approaches are also being used as marketing tools to attract investors and to signal openness to innovations.

RegTech is another area showing promise, especially for financial service providers that operate in multiple jurisdictions. This is particularly useful in dealing with compliance issues such as KYC. Increasingly large financial players are looking to technologies such as RegTech to reduce compliance costs and increase the accuracy and completeness of reporting. In addition, it can also facilitate new, smaller FinTechs as compliance is one of the biggest barriers to entry.

The other area where RegTech is being used is by regulators themselves. One of the best examples is KYC, especially as it relates to anti-money laundering issues. New RegTech can help reduce the criminal and terrorist use of formal financial channels by providing proactive and easy-to-use technologies that can identify suspicious activities early.

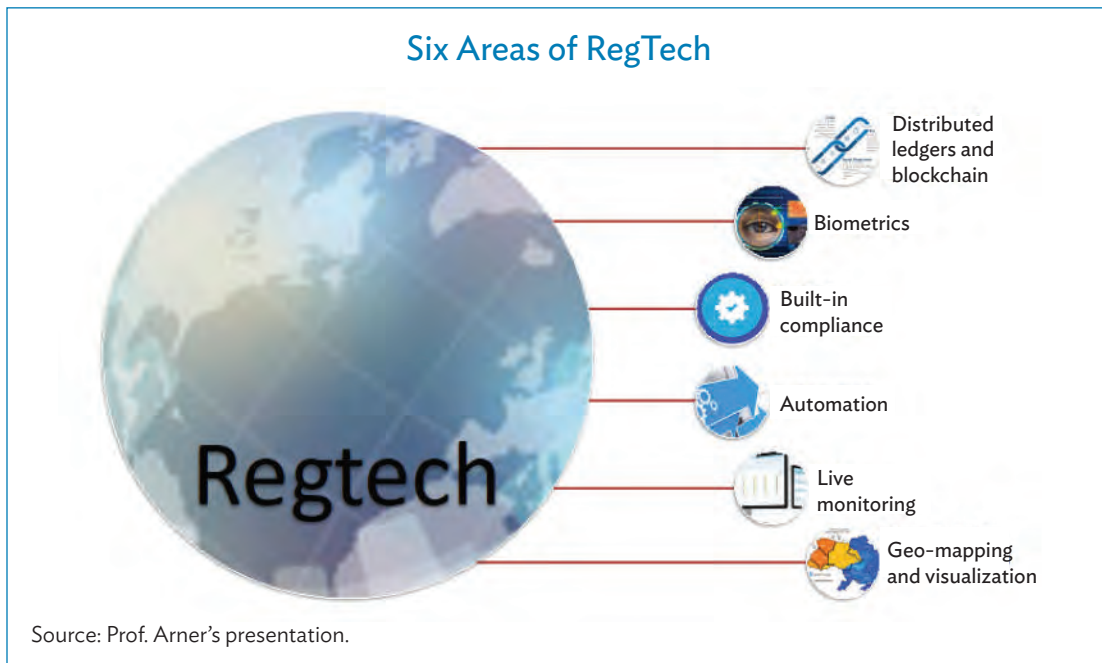
In summary, RegTech is being used to address:

- KYC/anti-money laundering/anti-fraud
- risk management
- data management and reporting
- compliance/consumer protection



Examples of RegTech tools include:

- use of distributed ledgers / blockchain technologies
- biometrics
- built-in compliance systems
- automation
- live monitoring
- geo-mapping and visualization technologies



**Deputy Director Melchor (T. Plabasan), the Bangko Sentral ng Pilipinas (BSP) was one of the first regulators to allow for innovation well before this approach became modified and now advocated as a regulatory sandbox. Has the Philippines decided to institutionalize the flexible test-and-learn approach rather than embark on a formal regulatory sandbox? Can you tell us more about this?**

The Philippines started its journey in using the test-and-learn approach back in 2004 when it was used to approve Smart Money and GCASH e-money providers. This model has continued to be developed and used by the BSP to address new products and services as well as new players. The BSP finds that the test-and-learn approach allows for a flexible way to understand new business models, allows innovative solutions, better assessment of risks, and to identify appropriate regulatory responses to address these risks.

In addition, the BSP finds this approach more flexible and less structured than the regulatory sandbox. The BSP is also now looking at introducing new RegTech approaches. One is an open application programming interface system that will allow regulated financial institutions to push data to the BSP to better facilitate and improve compliance in real time. The BSP is also looking at RegTech to support consumer protection by providing for interactive tools such as chatbots to improve how customers file complaints.

**Tanya and Antonio, as someone who has made use of a regulatory sandbox, what has been your experience so far?**

Cantilan Bank has used the test-and-learn approach to test the use of mobile e-money to support banking services and then was one of the first to innovate in the area of micro-banking offices that operated in place of full service branches in remote areas. The latest test-and-learn approval that was requested was to be the first bank to be allowed to run a core banking platform on the cloud.

While there is no manual or detailed steps under the test-and-learn approach, the BSP was quite open and helpful in guiding the bank with all the requirements it needed to have in place. The key in the Philippines has been the very open and close dialogue that the BSP has maintained with the industry that has made the test-and-learn approach successful.

Traditionally, many financial service providers have viewed regulators more like gate-keepers. However, with the development of the test-and-learn approach and regulatory sandboxes we see a more proactive and supportive role of regulators today. Regulators can also help bring more standardization to the industry. Again, the difference in the Philippines has been the very proactive approach that the regulator has taken to help better clarify what can and cannot be tested. The Philippines is a good example of how to demonstrate to the FinTech sector where the market opportunities are, and easy entrance has made it possible and cost effective to test new product services and business models that would not have been possible before.

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*“Today, (in the financial services industry) everything has to happen at a higher speed and all players from the financial service provider to the regulators have to be communicating in real-time and we see this happening in the Philippines.”*

**Antonio Separovic**  
Managing Director  
Oradian

## Indonesia is just starting its regulatory sandbox. What approach are you taking and what lessons can be learned?

As Indonesia develops its regulatory sandbox, the first step that was undertaken was a mapping of FinTech players as well as the known and potential risks from these innovations and new players. The second step was to engage in an open dialogue with the financial sector, especially FinTech players, to better understand their plans and where the barriers were. This process is an interactive learning approach between the private sector, especially FinTech players, and the regulator.

## What general advice does the panel have for regulators looking at regulatory sandboxes or the use of RegTech solutions in their markets?

Regulators need to be more aware of what is happening in the marketplace.

There is also the issue of new entrants in the financial system. What this means for the regulator is that they have to go beyond having a dialogue only with traditional financial regulated providers, since a significant percentage of the population may be engaged with new products and providers that may fall outside the regulatory framework, such as peer-to-peer lending. Regulators need to stay on top of innovation rather than play catch up. The People’s Republic of China offers a good example in having to play catch up with a whole new range of providers and platforms that were offering financial services to large numbers of people, which led to large-scale fraud, which then required regulators to step into the market.

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*“With the spread of technology, things are happening much faster than before. The framework we use is that things can move from too small to care to too large to ignore to too big to fail in record time.”*

**Douglas W. Arner**  
Kerry Holdings Professor in Law  
University of Hong Kong

So apart from continuously collecting data on what is happening in the broader financial system regular dialogues with the broader industry are also required. What regulators and policy makers want is to build more inclusive financial service industries where even new players are brought into the fold rather than hide from the regulator. Having an early dialogue helps both sides to understand the opportunities as well as the potential risks. There are also a variety of new business models and new products to consider, especially when these are being developed by new nonbanks who were not previously financial sector players. This is where regulatory sandboxes help to test new products and services, especially those offered by new players.

Another way to look at new providers is to develop tiered approaches to regulation that are proportionate to the risk, size of the provider, and number and volume of transactions. An example includes the tiered approach that the financial service regulator took in the United Kingdom to register and eventually license different levels of payment service providers.

There are some early examples of regional discussions around regulatory sandboxes and the important lessons around tiered and e-KYC. The next steps will be the agreement of standards and greater collaboration between different regulators, especially those now offering regulatory sandboxes. Some amount of peer-to-peer learning and exchanges are also beginning to occur. The test-and-learn approach was documented and shared between regulators, especially by the Alliance for Financial Inclusion over the years, and now sharing of lessons in regulatory sandboxes is occurring.

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*“Regulators also need to ensure that they constantly develop their capacities as you cannot regulate what you do not understand.”*

**Melchor T. Plabasan**  
Deputy Director and Head  
Core Information Technology Specialist  
Group



The panelists in Session 7B explained the developments and experience in the use of regulatory sandboxes.



## Session 7C: Data Privacy, Financial Education, and Consumer Protection



### Moderator

**Karen Miller**, Chief Knowledge & Influence Officer, Women's World Banking

### Panelists

**Hema Bansal**, Senior Director, South and Southeast Asia, Smart Campaign

**Brajesh Panth**, Chief of Education Sector Group, Asian Development Bank

**Ivo Jenik**, Financial Sector Specialist, Consultative Group to Assist the Poor

Data is central to the business models of almost all financial service providers today. Companies able to derive business insights from financial services data can spot and maximize new opportunities and reduce risk. Unlocking this value, however, is dependent on far more than smart algorithms and exponential processing power. At the same time, as more third-party nonbank FinTech providers gain access to valuable financial transactional data, ensuring data privacy gets more difficult. It is therefore essential that financial service institutions including nonbank FinTech providers build and maintain the trust of consumers and other stakeholders—for both reputational and compliance reasons.

In addition, consumer protection in the digital age is increasingly essential and requires continuous efforts in financial education.

- In general, many new and low-income consumers do not fully understand the risks and often are confused especially by mobile financial services. Many still use feature phones and often rely on agents to facilitate their transactions. In markets where mobile e-money agents are common, this is still a weak link, where fraud happens partly due to poor monetary incentives for agents and lack of awareness among consumers.
- Proper “informed consent” is a real challenge, especially when providing disclosure information on a mobile phone screen.
- In some countries, there are still direct and indirect discrimination issues for female clients.
- In digital credit, especially amid the rise of nano-loans, there is a gap in policy and regulatory framework, with consumer protection policies trying to catch up to new technologies and new products that did not exist a few years ago.

### What are some tips for consumer education in the digital age?

Hema Bansal highlighted the importance of consumer education. The sooner training is offered, the better, since there is going to be a steep trajectory in the digital space. Consumers must learn to ask questions about the products they use. When they have learned and have enough trust to use the system on their own, this will help improve safer access and usage of digital financial service (DFS)



products. In designing effective financial literacy training, it is important to take a customer-centric design approach while ensuring that it is fun and engaging. Mobile phones can provide interactive training available 24/7, including the ability to provide reminders and help clients learn basic procedures through repetitive practice.

Financial literacy, focusing on numeracy (still a big barrier), can help reduce fraud. Financial literacy methods should be simple and fun, such as using images that customers are familiar with and which can be used with simple clicks or swipe motion on mobile phones. The best approaches are those designed collaboratively by partners, whether these are between the financial service provider and their partner mobile network operators or FinTech providers.

## Customer Complaint Management

Ivo Jenik pointed out that consumer complaint management and redress are crucial parts of consumer protection. Regulators are increasingly demanding improvements in the practices of financial service providers including FinTech. New regulatory technologies (RegTech) are beginning to demonstrate the potential to utilize technology to address areas of regulatory compliance such as improving consumer complaint management systems. While “suggestion boxes” have been used in the past, new digital technologies such as social media and the use of interactive chatbots demonstrate more potential to engage with consumer complaints proactively.

Hema Bansal shared the research conducted by ACCION’s Smart Campaign, which noted that the use of interactive voice response systems in some cases are more efficient than face-to-face complaint systems, as clients are more willing to complain through a machine than a person. Regulatory sandboxes are also now being used to look at consumer complaint management approaches as well as consumer protection compliance.

## Which regulatory sandbox approaches can we learn from?

Ivo Jenik also shared that while there is not enough data yet to demonstrate best practice examples in regulatory sandboxes, the ability for regulators to be open to let providers test innovations, including issues around improving complaint management approaches, is already a big step. Some of the interesting examples from the region include India and Malaysia.

## What are some of the most important consumer protection/financial literacy priorities/actions for governments and the industry at this time?

Some of the most critical steps that governments, regulators, and the FinTech industry need to undertake include:

- Support for ongoing public and private sector dialogues including regional and international peer-to-peer learning on best practices for consumer protection/financial literacy in the digital age.
- Regulators need to look at the new consumer protection risks that arise with DFS and come up with new and/or adapted standards.
- Cybersecurity and fraud prevention are important for consumer protection, and more investment by providers should take place.
- RegTech and the use of digital identification (eKYC) should be considered to develop more cost-effective compliance options for providers.
- Regulators and supervisors should also invest in RegTech to improve their oversight functions.



Session 7C panelists talked about the risks associated with the consumer offerings of fintech companies that could be viewed as harmful to consumers.

# Day 3: 10 November 2017

## Welcome Address



**Gil-Hong Kim**

Senior Director, concurrently Chief Sector Officer  
Asian Development Bank (ADB)

On this third day of the 2nd Asia Finance Forum: FinTech and Sustainable Development, I welcome all of you on behalf of the Asian Development Bank (ADB), the ADB Institute, the Alliance for Financial Inclusion, the Bill & Melinda Gates Foundation, the Consultative Group to Assist the Poor, and the Government of Luxembourg.

We look forward today to our guest speaker, Michael Wiegand, Director of Financial Services for the Poor at the Bill & Melinda Gates Foundation. As many of you know, we partnered with the Foundation in an innovative FinTech Bootcamp focused on the lessons of the Gates-supported Level One project, just part of ADB's overall and ongoing support for digital financial services to better address the Sustainable Development Goals. This includes pressing issues such as inclusive economic growth; ending poverty; improving access to education, water, energy, and health care; insurance; and moving toward sustainable cities and communities.

Today's conclusion of the forum focuses on building on what we have learned over the past two days to develop a shared vision. The session will discuss the essential ingredients or prerequisites needed to set a national strategy and agenda to harness the full potential of FinTech.

Addressing these prerequisites and harnessing the potential of FinTech requires that governments collaborate with industry and other key stakeholders. It also requires ongoing public and private dialogue with policy makers and regulators to identify the policy settings and regulatory best approaches that will help provide a sound policy and enabling regulatory environment for responsible FinTech advancement.

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*“Addressing these prerequisites and harnessing the potential of FinTech requires that governments collaborate with industry and other key stakeholders. It also requires ongoing public and private dialogue with policy makers and regulators to identify the policy settings and regulatory best approaches that will help provide a sound policy and enabling regulatory environment for responsible FinTech advancement.”*

**Gil-Hong Kim**

Senior Director, concurrently  
Chief Sector Officer  
Asian Development Bank

This includes, as we learned yesterday, the key aspects not only of information and communications infrastructure but also national identification systems. On the enabling policy and regulatory environment, we learned about the importance of controlled pilot tests like the test-and-learn approach implemented for much of the last decade in the Philippines as well as the new use of the regulatory sandboxes now being rolled out across the region. Moreover, we learned about the importance of balancing these innovations by supporting measures to improve security and protect against cybersecurity and fraud.

In addition, during the breakout session today we want to hear from all of you about the best ways for ADB to support the expansion of responsible and inclusive digital financial services that support broader sustainable development goals.

As most of you know, ADB assists its members and partners by providing loans (policy-based and project), technical assistance, grants, and equity investments to promote social and economic development. As an agent for change and with the ability to catalyze private sector involvement, we advise governments on the investment environment and support public-private partnerships and dialogue.

Also, during the breakout session, we encourage all of you to discuss your priorities and share with our regional departments and ADB teams which innovations you heard about that you think will provide the most opportunity in your particular market. We are open for business and want to work proactively under current or future program loans with our government clients to ensure FinTech can be harnessed in most ADB projects that focus on sustainable development goals.

This requires coordination across traditional financial players as well as new FinTech players, government stakeholders, policy makers, and regulators. We stand ready with support.

Thank you for joining us on this third day of the Asia Finance Forum. We look forward to active discussions and your inputs.



ADB's Senior Director Kim delivered the welcome remarks at the 3rd day of the forum.

## Day 3 Opening Keynote Session: Opportunities for FinTech in Asia



**Michael Wiegand**

Director, Financial Services for the Poor  
Bill and Melinda Gates Foundation

Mr. Wiegand tied up the theme of the keynote “opening opportunities for FinTech in Asia” with the immense opportunities presented by digital financial services (DFS) to achieve financial inclusion, how they can promote economic development and the importance of necessary pre-conditions for achieving scale in DFS.

Financial exclusion (the opposite of financial inclusion) is a driving factor in global poverty and inequality. Two billion people worldwide lack access to financial services—savings, insurance, credit—despite the poor having very active financial lives. While the poor only have small value financial transactions, they amount to substantial sums of money for everything from food purchases to doctor’s bills to school fees. The poor have also devised means of lending and borrowing money from complex and informal channels and social networks. To get by, they have been creative in pooling informal financial tools. They mostly rely on cash and liquid assets, like jewelry and livestock. Because their financial instruments are mainly informal, they face risks, limitations, and hidden costs, contributing to their difficulty in breaking out of poverty. Financial inclusion is, thus, a priority.

To put a human face to the financially underserved, Hannig recounted the story of a farmer he met in Kenya. The farmer, who owns two cows, recently signed up and activated a mobile e-money account.





He immediately saw the benefits of receiving payments for his milk through mobile e-money since it is faster, more secure, and because the customers now pay him directly. Due to mobile payments, he does not have to worry that the collector or courier will run away with his money.

But the farmer is faced with a challenge. To use mobile money, he has to use three SIM cards for different purposes. He has to take the cards in and out of his phone every time he transacts with clients who use different mobile e-money platforms due to lack of interoperability. The high transaction costs and difficulty to monitor and manage his balances and transactions have made mobile financial services inconvenient, unsafe, and costly. The story illustrates the potential benefits of DFS to the poor and obstacles that still exist.

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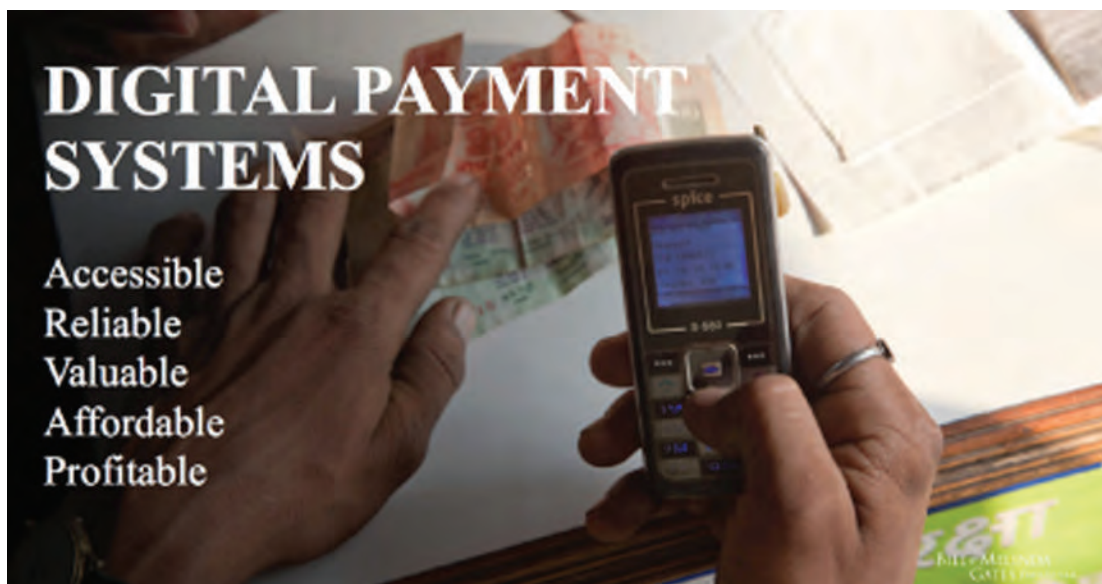
*“Pro-poor payment systems provide the rails that can be used to deliver a wide range of financial services and products to people. They also provide the foundation for financial inclusion and economic growth.”*

**Michael Wiegand**  
 Director, Financial Services for the Poor  
 Bill and Melinda Gates Foundation

DFS is a powerful anti-poverty tool and an extraordinary catalyst for sustainable economic development. The potential benefits of DFS include: reduction of transaction costs to near zero while allowing businesses to reach remote areas and enable the poor to use, store, and manage their finances safely. At the same time, DFS can also help governments to improve the efficiencies of government-to-person social benefit programs.

A recent McKinsey Company study documents the ways DFS can help ensure that more than 1.6 billion financially excluded people can easily become financially included. The same study also notes that DFS can add \$3.7 trillion to the gross domestic product of emerging markets by 2025.

To achieve these goals, governments need to enact the right policies, involve the right participants, develop the right innovations, and have the right infrastructure and investments. Among priorities in inclusive economic growth, the development of digital payment ecosystems is one of the best investments that governments can make.





Pro-poor payment systems provide the rails that can be used to deliver a wide range of financial services and products to people. They also provide the foundation for financial inclusion and economic growth.

He further illustrated the traits of pro-poor digital financial services as:

- Accessible: they need to reach into the poorest neighborhoods and smallest villages, easy to apply and use, including by those who may not be able to read and write and must also accommodate those who have never used financial services before;
- Reliable: the service must be accessible 24/7, highly secure, protected against cyber theft as well as money laundering, and terror financing;
- Valuable: there must be a clear advantage for people to use DFS instead of cash;
- Affordable and almost free for small scale payments;
- Profitable: offering DFS must be profitable for providers and vendors, DFS can only be offered innovatively and sustainably if the services are delivered by private sector at a reasonable profit.

Mr. Wiegand elaborated on the three essential conditions for expanding DFS:

- Exclusive use of real time push payments—this enables merchants and users to know immediately that a transaction has been made. Push payments are those initiated by the customer; unlike credit card transactions where the request comes from the merchant's system. Push payments reduce risk—a huge proportion of credit card fraud stems from the fact that merchants initiate payments which introduces a lot of risk to the system. Much of the cost of payment systems goes to managing risk and resolving issues from fraudulent transactions. Push payments reduce this, which helps both the affordability and profitability of the system. Push payments are expected to enable an explosion in the number of businesses who can accept electronic payments because banks will no longer need to assess credit and fraud risk of merchants, thereby making the whole system safer and easier to use.



**DIGITAL  
FINANCIAL  
SYSTEMS**

Real-Time Push Payments  
Range of Participants  
True Interoperability

BILL & MELINDA  
GATES foundation

- Introduction of a wider range of payment providers in the system—Payment providers range from the giants that dominate their market, like e-commerce giant Ant Financial (China) and mobile network operator-led M-PESA (Kenya) to small FinTech and startups. These players need to collaborate and leverage strengths and advantages. For example, FinTech and mobile network operators have an advantage when it comes to serving the poor because of platforms and infrastructure that already reach people at low cost. They have platforms and infrastructure to reach millions of people and existing agent networks that provide prepaid airtime, bill payment, or money transfer services that reach remote towns and villages. These players have a huge cost advantage when adding new digital financial services such as e-money accounts for their existing customers.
- Banks do not have the same cost advantage since they lack the same client base and agent/distribution infrastructure. While banks do not have a natural advantage to serve poor customers, they will continue to have to be the natural financial service providers for the businesses and industries and can partner with FinTech players to expand outreach.
- True interoperability is the ability of customers to transact with any other customers whether they use the same service provider or not. The open loop system lowers cost and provides flexibility. Ant and M-PESA operate in closed loop systems, which means that platforms can handle payments only among customers within their network. There are inefficiencies associated with parallel closed loop systems, as illustrated by the story of the Kenyan farmer. Interoperability means having a single account and a single SIM card transacting with customers of other systems at almost zero cost. True interoperability not only involves funding a wallet, but agents must also be able to provide services to account holders of a different bank at little or no cost.

True power lies in having all three conditions present.

While all three conditions have not yet been achieved in any one country, Asian countries appear to be leading the way and are at the cusp of realizing ideal conditions for DFS to scale. India has introduced several innovations, including a biometric national identification system. The Bangko Sentral ng Pilipinas just launched a payment switch that allows banks and nonbanks to connect, working on a real time, push payment interoperable switch.

It is the time for action. Governments need to establish the regulatory framework, policies, and incentives to help DFS flourish. Regulators must define and regulate new types of service providers as well as the need to adjust requirements and continue a close public-private dialogue with the FinTech sector.

The work, however, should not be focused on opening markets and lowering barriers. While some risks diminish, new risks and challenges emerge. Supervising a wider range of market participants and protecting millions of customers through RegTech offers new opportunities. Outside of regulation, governments should also digitize government-to-person payments.

Banks must not view FinTech players as competitors, but rather see them as partners that will bring new services and provide access to new potential customers. Companies have the opportunity to re-think business models, as low-cost micro payments can help revolutionize how services are delivered.

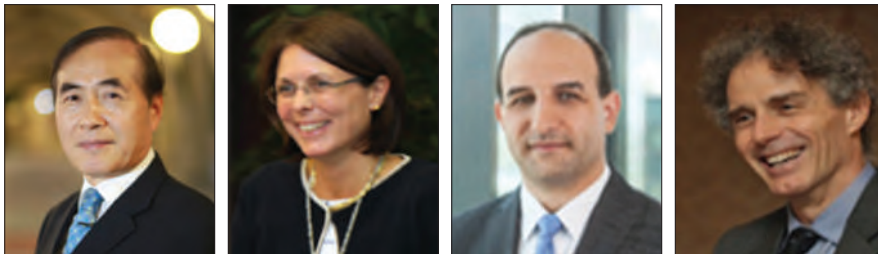
Mr. Wiegand closed his keynote with a challenge: the development community, including ADB, must change its mindset. Investing in pro-poor payment systems will result not only in financial inclusion

but broad-based economic development. Inclusive, interoperable payment systems can bring economic empowerment and provide a gateway to other financial products and services that can help people address poverty. This is important because all lives have equal value. Everyone benefits from an economy that benefits everyone.



Michael Wiegand of the Bill and Melinda Gates Foundation delivered the keynote speech at the 3rd day of the forum.

## Session 8: Laying the Foundation for Digital Finance and Development Priorities



### Moderator

**Gil-Hong Kim**, Senior Director, concurrently Chief Sector Officer, Asian Development Bank (ADB)

### Panelists

**Lotte Schou-Zibell**, Chief of Finance Sector Group, SDCC, ADB

**Kalin Radev**, Chief Executive Officer, Software Group

**Peter Lovelock**, Director & Founder, Technology Research Project Corporate

Gil-Hong Kim noted that digital financial services, especially the development of the FinTech sector, requires an appropriate enabling environment as well as a vibrant interconnected digital payment ecosystem. This also requires that governments work to ensure that appropriate prerequisites are in place. In addition, countries that have concrete national strategies to promote digital financial services (DFS) in collaboration with the financial sector demonstrate the ability to more rapidly achieve a functioning DFS ecosystem than countries that do not plan properly.

### Building on the earlier sessions, what do you think are the key prerequisites/priorities necessary as well as those that can be important to fast track the progress of digital financial services that promote sustainable development goals?

Lotte Schou-Zibell pointed out that the basic prerequisites needed to reach the last mile include ensuring that key infrastructure, such as information and communications technology as well as access to electricity are in place. Other essential prerequisites include:

- Appropriate identification infrastructure to support KYC and allow remote account opening. However, as this infrastructure is being developed, countries can look at alternatives and tiered KYC for low-income clients without access to a national ID.
- Financial services should be affordable, accessible and appropriate and must serve the real needs of customers. When designing products and services, two important questions must be considered: who are the financially excluded and what do they need?
- Financial technologies must be appropriate and useful in the context of the country and the users.
- Cybersecurity measures and the use of new RegTech can ensure the safety and soundness of new DFS.
- There must be a proportionate and enabling regulatory environment in place that balances safety and security while supporting innovation to enable financial inclusion better.
- Interoperability built from cooperation should be the goal and competition among players will be essential.

Peter Lovelock highlighted the point that while technology is an enabler, providers need to ensure that the technology is appropriate to support country use cases. Scale and efficiency can only be achieved when providers balance appropriate technology with the right approach in a given market. There are too many cases where a FinTech player has a great technology offering but does not have the right approach and is unable to achieve critical mass. FinTech players must also focus on financial access points and ensure onboarding of new agents is balanced with new users to avoid chicken-and-egg challenges of too many users and not enough agents or vice versa.

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*“Without benchmarks, we do not have a point of reference, we do not know how to measure because there is nothing to measure against.”*

**Peter Lovelock**  
 Director and Founder  
 Technology Research Project Corporate

As noted by Kalin Radev, even with the best of plans, many challenges still constrain sustainable DFS ecosystem growth, including the following:

- lack of an appropriate enabling government framework for DFS;
- lack of an appropriate regulatory framework;

- restrictive risk management systems which limit innovation and outreach; and
- lack of appropriate cross-border data flows and/or restrictive policies for cross border e-commerce.

There is also the need to establish baselines and set appropriate benchmarks to track progress.

## How can we improve dialogue and cooperation between the private sector and regulators?

There is a perception in some markets that regulators see the private sector as the enemy and vice versa when the reality is that both parties are vital to a functioning responsible and inclusive digital payment system.

Behaviors drive objectives and objectives drive behaviors. One of the issues on regulatory sandboxes and developing appropriate FinTech frameworks is to clearly define what you want to achieve and then laying out the framework.

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*“The objective of sandboxes is to test new technologies. The Philippines is a pioneer in the test-and-learn approach, which provides an environment to test new technologies before they reach scale. This encourages innovation, while at the same time, mitigates risks.”*

**Lotte Schou-Zibell**

Chief of Finance Sector Group  
Sustainable Development  
and Climate Change Department  
Asian Development Bank

## How do you think FinTech is improving inclusive economic growth and diversification of the financial sector?

Financial services are both a tool and an enabler, as evidenced by recent studies that show that there is a connection between having DFS access and poverty reduction.

A recent study in Kenya shows how 185,000 people got out of extreme poverty after they had access to DFS. A similar study in India showed that when women were given access to DFS and received social benefits directly to their accounts, their household and income level increased and there was a higher possibility of them finding a formal job rather than a job in the informal economy.

## We see that collective national strategies are key to support digital financial services, what are some of the challenges/lessons you have seen?

Putting a mobile wallet technology and connectivity in place by themselves are not enough. Service and product design are key and FinTech objectives should be behavior driven and should address what the customers need, not what providers think they need. Digital financial services need to enable a wide range of daily payment needs, including the ability to send and receive government payments, pay bills, ride public transportation and make small value purchases. At the same time, developing the appropriate level of access points and ensuring they are in place as the market grows is essential. It is not easy but policy makers, regulators, FinTech, and established financial players need to understand what is needed and what is enabling really. When we are talking about DFS, we look at it from different angles and lenses. We now need also to ensure that DFS addresses the Sustainable Development Goals.



## What can governments, regulators, and development partners like the ADB do to better support these national priorities/efforts?

Development banks sit at the nexus of the development community and have a big responsibility to facilitate cross-border, cross-sector, cross-jurisdictional discussions. We live in a restrictive world where there are borders and jurisdictions, but the internet is cross-border. ADB sits in the middle and has the responsibility to amplify, highlight, share, and filter information to help regulators and policy makers learn from the different experiences. ADB also needs to be more flexible and open to change and be much better at seeing opportunities. The change in culture within ADB must include daring to test new technologies and integrating these into projects. ADB can encourage more pilots and leverage its power to convene and bring stakeholders, organizations, and people together.

## What does the near future hold?

The digital natives—those who belong to the generation born after 1996 and who were brought up using tablets and smart phones with ready access to the internet—already do everything online. They expect everything to be readily available at their fingertips when they need it and are impatient with paper-based options of the past. The future is already here—the window for scenario planning should be expanded to 20 to 30 years.

*“My work with young entrepreneurs and owners of start-up FinTechs has given me a more optimistic view of the future. Unlike the Gen X and Y, who are typically driven by profit and money, the new generation wants to contribute to making a difference. Because of this, I see a future where closed systems will begin to give in to open systems, intermediation is removed. The concern of the new FinTech entrepreneur is not trust versus how it works but access versus trust. Services that are given for free, for example, Google, it will take its own natural course in terms of returns. There will be less intermediation, augmentation, and digitization with humanity at the center.”*

**Roger Collantes**

2nd Asia Finance Forum participant  
Global Learning Solutions



Session 8 panelists discussed the essentials to set a national strategy and agenda to promote the FinTech sector.



## Session 9: The Way Forward

After two and a half days of information and knowledge sharing, participants separated into groups to reflect on what they had learned and potential concrete follow-up in their specific markets.

For the developing member country delegations, there were two specific questions:

- (1) What specific preconditions still need to be put in place or worked on to harness financial technologies to meet the Sustainable Development Goals?
- (2) Of all the financial technologies discussed during the conference, in your country which do you think would have the biggest impact and/or should be prioritized for investment?

For the private sector, the two specific questions included:

- (1) Which are the most important infrastructure issues that have to be addressed?
- (2) Of the financial technologies discussed during the conference, in your country which do you think would have the biggest impact and/or should be prioritized for investment?

It is clear from the matrix below (Table 1) that participants' answers varied significantly by country and region, with some indicating more physical infrastructure issues than others. But clear overall trends also emerged in those answers.

The top priority for all countries was the need to improve the legal and regulatory enabling environment, followed closely by improving payment infrastructure and strengthening and improving affordable access to information and communication technology infrastructure (specifically mobile broadband and data connectivity). The other priorities that many countries listed were about improving or implementing digital national ID systems and financial and/or digital (financial tech) literacy and awareness.

Among financial technologies expected to have the biggest impact, all groups mentioned interoperable digital payments. This was followed by distributed ledger technologies, including blockchain, as well as various regulatory technologies, including a focus on cybersecurity and the use of regulatory sandboxes to support financial innovation. Also highlighted were other financial technology developments, including advances in digital lending technologies, such as artificial intelligence and machine learning, as were developments in biometrics and electronic know your customer and the expansion of e-money and mobile money in several markets.

Table 1: Prerequisites Priorities		Central and West Asia	BAN_SRI_ PAK_MLD	Pacific	CAM_LAO_ MYA_VIE	THA_PRC_ INO_MON	PHI_BHU_BRU
Access to Energy				Access to electricity			
Appropriate Information and Communications Technology (ICT) Infrastructure		Access to ICT/ connectivity		Mobile coverage and ICT issues	Data availability/ connectivity	Access to ICT infrastructure	Data availability/ connectivity
Open and Efficient Payment Infrastructure		Need for unified and interoperable payment systems		Payment system infrastructure	Open and efficient payment system	Interoperability	Open and efficient payment system
Legal and Regulatory Environment		National level policy		Need to look at regulatory sandboxes to fast track access to FinTech and consumer protection	Security and regulatory framework	Legal infrastructure and Consumer protection vs Innovation (getting the right balance)	<ul style="list-style-type: none"> <li>- Rules on cryptocurrencies</li> <li>- Rules on blockchain</li> <li>- e-commerce and trade</li> <li>- Regulatory framework for FinTech</li> <li>- Test and learn/ regulatory sandbox development</li> </ul>
Identification Infrastructure		Biometric/electronic know your customer		National ID	National ID		National ID
Financial and Digital Literacy		Customer centric and user friendly		Capacity building on financial technologies		Financial literacy	

### Top 3 Priorities by Country

Prerequisites and Priorities	Philippines	Bhutan	Brunei Darussalam	Czech Republic	Thailand	Indonesia	People's Republic of China
Access to Energy	#3 Electricity	#1 Electricity					
Appropriate ICT Infrastructure	#3 ICT – Affordable Data	#1 – Data/ connectivity			Access to ICT Infrastructure	Access to ICT Infrastructure	Access to ICT Infrastructure
Open and Efficient Payment Infrastructure					Interoperability	Interoperability	Interoperability
Legal and Regulatory Environment	Rule of law and regulations		Security	Security	Legal infrastructure and consumer protection versus innovation (getting the right balance)	Legal infrastructure and consumer protection versus innovation (getting the right balance)	Legal infrastructure and consumer protection versus innovation (getting the right balance)
Identification Infrastructure	#F1 – National ID system						
Financial/Digital Literacy	#2 Financial literacy		Trust issues	Trust issues		Financial literacy	User experience and financial literacy

### Top 3 Priorities by Country

Prerequisites and Priorities	Cook Islands	Tonga	Samoa	Papua New Guinea	Solomon Islands
Access to Energy	Electricity	Electricity			Access to electricity
Appropriate ICT Infrastructure	ICT – affordable data	Data/connectivity – listed as a national priority		Lack of mobile network coverage	Access to ICT infrastructure
Open and Efficient Payment Infrastructure	E-money	Mobile money and Electronic Funds Transfer at Point of Sale	E-wallets and mobile payments	Payment infrastructure	E-wallets payment system framework — lack of real-time payments/ interoperability
Legal and Regulatory Environment		Agent banking	National financial technology policy	Sandbox approach to support FinTech and consumer protection rules	Sandbox and RegTech and National Development Policy
Identification Infrastructure			National ID	National ID	Digital national ID
Financial/Digital Literacy			Capacity building / education/ awareness	Financial literacy	

## Top 3 Financial Technologies

Top Digital Finance Technologies	Central and West Asia	BAN_SRI_PAK_MLD	Pacific	THA_PRC_INO_MON	PHI_BHU_BRU
Digital/Mobile Payments (QR Code Payments)	Interoperable Digital Payments	Unified/ Interoperable Payment System	Domestic and International Money Transfers Digital Money Transfers EFPOS National Payment System Framework	Digital payments / QR code payments /national payment systems / interoperability	Digital payments / remittances
Digital Lending/ Big Data/ Artificial Intelligence (AI)				AI machine learning	Digital lending
Distributed Ledger Technologies	Blockchain		Blockchain		Cryptocurrencies/ blockchain
Agent Banking					
E-Money (including mobile money)		e-money	e-money/mobile money		
RegTech / Regulatory Sandboxes	Cybersecurity	Customer centric and user friendly	Regulatory sandboxes		
Biometric Identification/ e-know-your-customer		Biometric/ e-KYC	National ID		

BAN = Bangladesh, BHU = Bhutan, BRU = Brunei Darussalam, CAM = Cambodia, PRC = People's Republic of China, INO = Indonesia, LAO = Lao People's Democratic Republic, MYA = Myanmar, MON = Mongolia, THA = Thailand, PAK = Pakistan, SRI = Sri Lanka, VIE = Viet Nam.

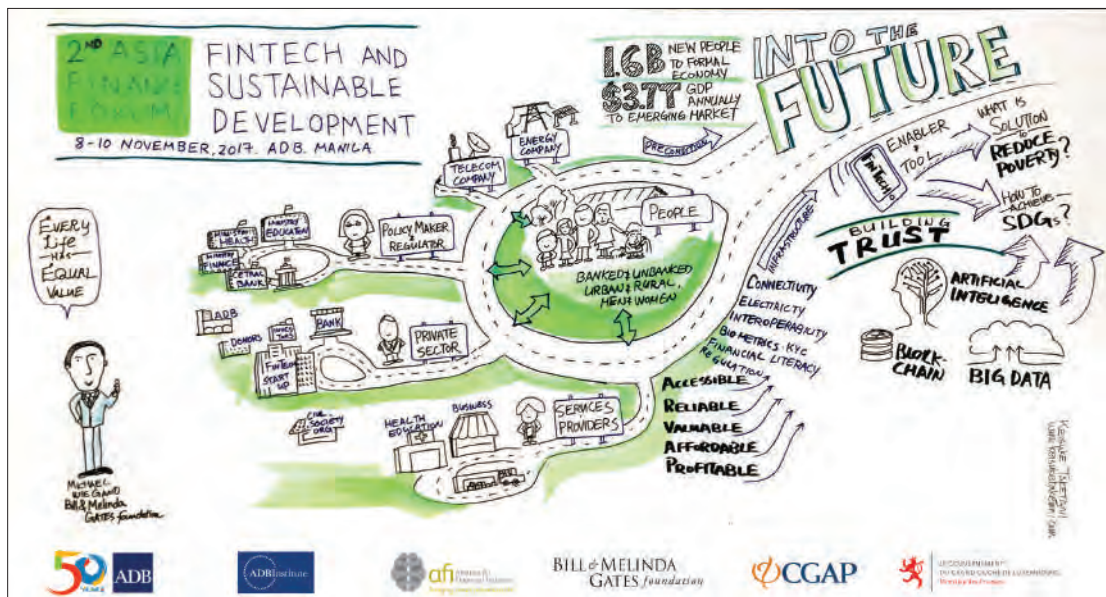
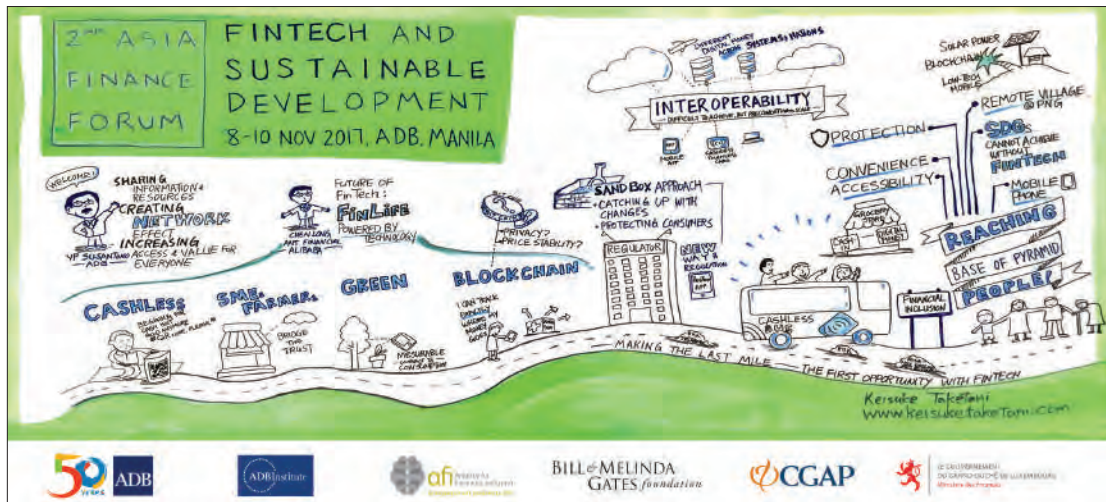


Participants reflected on the way forward based from the discussions at the forum on how each DMC and subregion will position in future.



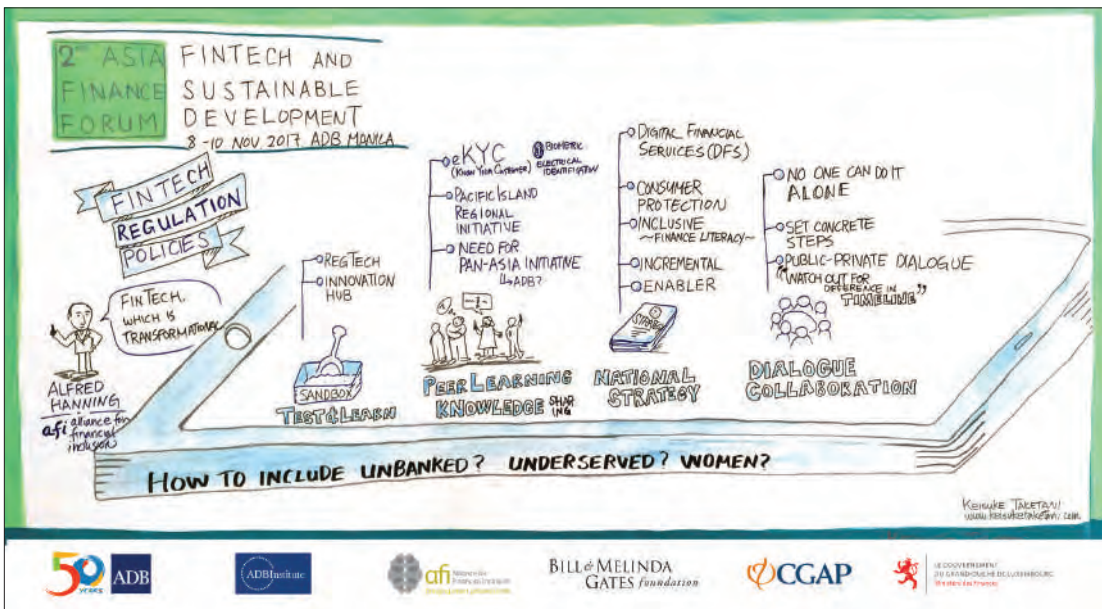
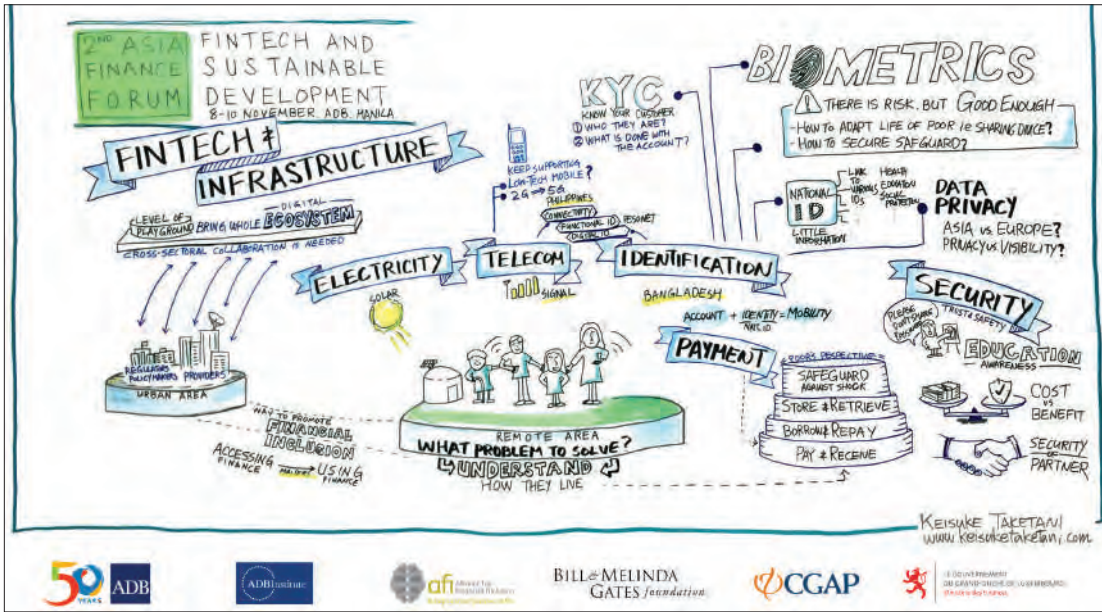


Participants reflected on the way forward based from the discussions at the forum on how each DMC and subregion will position in future.



Graphic recording of the discussions during the forum.





Graphic recording of the discussions during the forum.

## 2nd Asia Finance Forum Conference Proceedings

The 2nd Asia Finance Forum: FinTech and Sustainable Development conference proceedings summarizes the discussions and valuable insights on themes running from information and communications infrastructure to payment systems amid the buzz animating the emerging digital finance world and new financial technologies associated with the up-and-coming blockchain technology. Held on 8-10 November 2017 at ADB Headquarters in Manila, Philippines, the conference was a collaboration between the Asian Development Bank, Government of Luxembourg, Asian Development Bank Institute, Alliance for Financial Inclusion, Bill & Melinda Gates Foundation, and Consultative Group to Assist the Poor. The second forum once again brought together policy makers, financial sector supervisors and regulators, financial institutions, financial technology (FinTech) companies, academia, as well as financial sector experts to discuss the growing importance of FinTech in shaping the financial system of the new economy. This touched on areas such as logistics infrastructure, payment systems, financial services, cloud computing, and data collection.

### About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members—49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

