

On June 17th, L.A.MBA hosted the first on online panel with the topic of **Payments Revolution in the Post Pandemic Era**. Featured panelists included **Terry Angeles** (Globe head of Fintech, Visa), **Yiting Shen** (Global Head of External Network Management, Citibank), **Jennifer Jiang** (Co-founder and CEO of BlockTest), **Nakul Gupta** (Business Operation & Strategy at Venmo), and **Colton Dillion** (Co-founder of Crypto Hedgehog). **Jessie Liu** (VP of BOCUSA, Rep of Sloan and executive committee member of L.A.MBA) moderated this panel. The panel starts from Panel talk, followed by discussion and Q&A. Here is the recap¹.

Jessie Liu of Sloan/MIT started the session giving background on initiating this panel. She said the system of money and payments is a critical public infrastructure just like the highways connecting the dots. According to McKinsey report, global payment revenue reached \$1.9trillion in 2018, almost doubled than ten years ago. By segment, global payments revenues were split close to equally between retail (\$1.02 trillion) and corporate (\$930 billion)—similar to the distributions of the past few years. It's a meaningful topic today to discuss about COVID impact on this system which is relevant to everyone's daily life and every business.

In the panel talk session, each panelist provided insight on COVID-19 impact on payment system.

Terry Angeles said that one of the biggest impacts of COVID-19 was the increase in demand for touchless payment. This trend will likely continue after the epidemic. Deepening of E-commerce will be a continuous driving force for global payments. The pandemic, in particular, will accelerate the e-commerce strategy of global (large) companies by 5-7 years.

Yiting Shen suggested it is not a “revolution” but an “evolution”, and COVID only accelerates the speed of the evolution. Payments are very much a scale business with the high speed and all digital turning around the money. Some necessities are now required in this process. Fraud protection has become a necessity. This involves fraudsters faking government's entities, merchants, charities requesting money or even in AML. Efficacy issues also warrant attention. For instance, IndiaStack Aadhaar* such issues prevented 2MM people from getting their rations. (*IndiaStack is a set of application program interfaces [APIs] that allow governments, businesses, startups and developers to utilize a unique digital Infrastructure to solve India's challenges to a remote, paperless, and cashless service delivery). Another challenge is to liquidity, in which management and cost are of importance. Nevertheless, Payments are inseparable from Trade and Commerce, and globalization trade. For example, instant trade loan funding and insurance payout/claims/relief payments not only require speed, but also the enhanced data carrying capabilities.

Specially, payments may need alter to meet the customer needs in and post COVID. One is 24/7 always on, cheaper TransferWise multi-currency account. The institutes need to combat average cost of remittances which were approximately 7% in 2019, well above the UN sustainable

¹ Due to unexpected tech issues, we failed to record from very beginning. But we've managed cover the full content in this recap. Sincerely thanks for your understanding.

development goal of 3% by 2030. Another area is the need of APMs to go beyond digital wallets: bank transfer, Buy Now Pay Later, PostPay, PrePay, instant payments to meet the clients' needs.

Contactless payments amount up. For instance, the UK raised contactless card payment limit from 30 to 45 pounds in April. It has become the default payment method at shops. It's interesting to note that Japan has a cash based economy with cashless ratio roughly 20% compared with Korea of 96% and China 66%, MUFJ and Sumitomo 10% and 15% decline on branch visits in Japan during COVID-19. Germany is also slow to change, where 76% of retail purchase are still in cash. This is more than double the European average. However, COVID allows 57% more use of credit/debit cards, 56% fewer withdraws from ATMs.

Jennifer Jiang believed COVID caused an acceleration of the digital transformation, particularly masking e-commerce one of the future economic driving forces. At BlockTEST they approach payment from the angle of programmable money and digital inclusion. They're hopeful that blockchain becomes part of the "new norm" for the next-generation payment experience. This would include transactions of verifiable scarce digital items, and the back-end infrastructure of payment games themselves. BlockTEST is building a blockchain powered Nodes Management System that not only supports business as an operational infrastructure, but uses streams of machine data as a new source of marketing intelligence.

Nakul Gupta mentioned that the outbreak of COVID-19 brought many unexpected changes to the payment industry. It prompted businesses to quickly move online. Before the outbreak, it was difficult to convince businesses to move online, or to even ask them to add a bank account in the App.

Colton Dillon discussed the trend of payments. He said to understand where payments are going we have to look at the historical model of use for currency:

- a store of value: you can purchase the same value of goods ten years from now as today
- a unit of account: you can record and compute past transactions and value received
- a medium of exchange: you can exchange the currency for real goods or other currency

Historically the usage of currencies and the interface between users of currency has been developed ad hoc. Governments have determined the value of each other's currencies through trade agreements, treasury exchange, diplomacy, and warfare. Businesses have developed relationships with governments through taxes, counterfeiting, smuggling, and black markets; and businesses have developed relationships with each other through barter, lending, and credit.

This ad hoc development makes it difficult to cross borders or to transact across domains, so we are moving toward a unification of protocols globally. Back in the 70s and 80s, the internet had many protocols, so computers had to have special protocols to share data. By the 90s, http and www had clearly won out, resulting in a rapid consolidation and acceleration of innovation and development. In the same way, we are building a new currency protocol so money changers know how to talk to each other. Paypal said how can we make money more like email, and cryptocurrency is saying how can we make money more like the app store.

Currencies have a variety of elements that make them desirable for different purposes. Here are 7 factors that you might consider when choosing a payment method:

1. **Identity:** Accounts are tied to a single person
This is highly relevant for fraud-prevention and state control. We want to make sure that you can't counterfeit money or pretend to have someone else's money.
2. **Privacy:** Activity cannot be determined directly by an informed observer
For a lot of purposes, individual customers want to be able to deny that any transaction was made, or to whom they sent a transaction. This can be solved with pseudonymity (eg account numbers, card numbers) or features like zero-knowledge proofs
3. **Verifiability:** Anyone can prove they did something they said they did
As a merchant or purchaser, you need to prove a transaction was sent or received and your account has the amount you say it does. Nowadays, this is solved with triple-entry accounting hashes, merkle proofs, and various proof of work or proof of stake schema.
4. **Liquidity:** Users can exchange money for real goods quickly and easily
Your money is no good if you can't exchange it for anything. Being able to split money into small quanta, or to leverage your currency against other assets are desirable features
5. **Administration:** A formal process exists for rule-making and enforcement
You need to be able to decide how to issue new money or change the quality of the money. Is the decision-making process centralized or decentralized, who are the stakeholders, how do their votes influence the value of the currency
6. **Programmability:** Can you attach useful work to a contract
Historically this function was provided by people like notaries or escrow agents, but the advent of distributed computing allows us to tie rules and value directly to money itself.
7. **Interactivity:** Ease of acquisition and usage
Money is only as good as its usability. Bullion was a direct improvement on wheat since it was non-perishable, representational currency like coins and paper an improvement because it was more portable, cards an improvement because there is less custody risk.

In the future, monies will exist at different intensities along this 7-factor model. Part of the future of payments will be selecting the right currency for your desired use-case.

Panelists then shared their insightful opinion on some interesting topics in the discussion session and answered questions from audience.

What will be the most dominant form of payment in the next 10 years?

Yiting maintained that in the institution side, we could see various innovation in funding transfer systems like RTGS system (Real Time Gross Settlement) we use today, but the underlying mechanism will remain the same.

As for the retail, 'g-localization' will be a trend, which means local payments fostering at global scale. 70% of global ecommerce is powered by over 450 local payment methods - heavy localization on payment methods / channels / regulations. As for the real time payment, 54 real time schemes are alive in different countries, for instance, India UPI, Thailand (PromptPay), Malaysia (DuitNOW), and each country will go their own way, thus raising questions on whether

this payment will be allowed cross-border. “There are a lot of frictions and we are solving in multiple ways, including based on blockchain or not.”

Terry mentioned currently cash remained dominant in the consume payment system in volume, amounting to 18 trillion, versus 9 trillion by card. The dominate payment will eventually become digital, moving away from cash. For the B2B payment, a lot of domestic digital payments need to interoperate. He expects that cards will have a role in connecting these networks, being the network of network.

Nakul agreed that cash will likely remain dominant, but the share will be taken away by digital. And it’s unlikely to have a predominant digital payment in the consumer side because there are a lot of strong regulations and local effects. Payment is a game of network effects. Payment will likely exist in partnerships. On B2B side, there will likely be a local player in each market. In other cases, partnership will emerge, as well as some dominant consumer payment forms.

Jennifer had a positive outlook about the speed of technology having an impact. Society will move forward to a token- based, or digital-cash based payment system. She stated that people prefer instant payments, and there are some conditions akin to entire cloud-based computation, API, etc., to support the transition. The CBDC payment system will develop in a synthetic way, rather than just Blockchain-based. The Central bank will work with existing third party service providers as the innovative lead to improve consumer’s experience, while maintaining the security and efficiency behind.

Colton believed that debit/credit cards will remain dominant. However, the underlying infrastructure backing card payments may shift a little. But even in 10 years major countries will not shift substantially to the digital currency beyond the existing ad hoc ones. 10 years is a short time on the scale of banking and governance.

How will relative currency strength and the sudden shift in trade balance affect cross-border payments and the way institutions approach risk?

Yiting took RMB solution as an example that US-China trade relationship has been damaging. In the past 5-6 years, Chinese currency slowly moved to become a global currency, but remained in 3rd/ 4th ranking in the trade currency, while 8th in the payment side. However, CBDC, as a global stable currency in the future, may have wide adoption in the international payment innovation.

Colton stated that already we are starting to see governments and corporations diversify their holdings into multi-currency monetary funds like the Libra model. Unfortunately, there’s a tension between what is good for individual governments and what is good for global commerce. There will likely be resistance from sovereign nations to upstart currencies or monetary pools.

Can central bank digital currency (CBDC) achieve global scale?

Terry mentioned that PBOC has created digital RMB with their DCEP project. It’s hard to predict whether there will be a global scale for CDDBC, and it depends on many conditions. No

matter if the subject is CBDC issued by Central bank, or if its regulated private digital currencies (stable coins), they are just tokenized fiat. Whether there is demand from consumer or merchants to accept this digital money, payment system will just adapt. If enough local central banks are behind it, it's possible to become part of the payment flows, but the share is not certain.

Jennifer maintained there are two folds for this question. One is if every country will have different versions of CBDC, it will reach a global scale; the other is whether there will be a dominant globalized scale of digital currency. For the first fold, about 80% of the global central banks, though with different paces, are looking into building CBDC infrastructure. It will be possible to reach a global scale. For the second fold, it might be tricky. A power currency needs to be from power country. Meanwhile more will be necessary from the demand side. More and more digital tools and stable coins are floating around. It may not be purely decentralization but a hybrid way.

Nakul agreed that local central bank will go first comparing with global scale. During the process, trust is the fundamental part. Concept of digital currency form needs to be well accepted by consumers.

Yiting mentioned that it will be more difficult than individual country's CBDC. A lot of issues like governance. AML, legal, security etc. are difficult to tackle when it comes to the cross-border payment. Value exchanges also matter when it comes to a group. It's a long way to go. New rise on Fiat Rivals - **CBDCs** still in the early stage, China making it seamless, with more potential in the future on GSC.

Colton pointed out every country will not give up the power to other countries. While CBDC's will be useful and potentially widely adopted inside a given country, the global balance of power will require countries to reject foreign central digital currencies. Only a distributed approach, or a consumer-driven approach can gain the critical mass necessary to onboard new countries.

If Libra would have had more success if the lead sponsoring company was a financial tech company like PayPal or Visa/MC. FB was likely the wrong messenger.

Jennifer mentioned Canada Central Bank's offered two interesting considerations on the future use of CBDC: 1) needs of elimination of bank; and 2) if private cryptocurrency makes serious inroads. If CBDC takes a market-driven approach from bottom-up instead of top down, it is the solid use cases that matters the most. In this COVID the government subsidy program, for example, can make G2P (government to person) payment a very interesting use case.

Terry also emphasized the government reaction. More likely, central bank would like reserve the right of creating money. FB actually said they would make the reserve in the central bank. The concept has been more friendly to the regulators, it will be more chance to come to live.

Yiting pointed out Libra is to solve un-banked problem, which much smaller in transaction volume, with less impact. As for solving this problem, international organization like IMF which has global outreach and knows the needs & infrastructure would be in a better position.

Colton: No company, not just FB will take that role. The European Union and the United States would have shutdown any corporation, not just Facebook, because it would mean granting bargaining power over the country's monetary sovereignty to a private entity. If any corporation has the ability to negotiate monetary weights in their fund, they hold an economic hammer to punish countries that may wish to police them.

What is the most unexpected change in payment brought about by COVID-19?

Nakul mentioned a lot of people are doing fundraising in Venmo for various campsions like BLM or campion etc.

Terry: It's supprising to see how quickly fact to face activates move online due to COVID-19. For instance, restaurants switch to online order and payment. Traditional Business are transferring to online way.

Yiting: During COVID-19, we are offering to make payment free, you would think it's the bread& butter for revenue. But in reality majority part of payment revenues are not out of transaction fees, but from liquidity size, account maintenance fee and interest of the balance.

Colton: The hypothesis that Bitcoin would be a good crisis currency seems to have been roundly debunked. Everything dropped with the stock market, and though cryptocurrency recovered quicker than legacy markets, the volatility was still very closely aligned.

Why not two-factor authentication (pin& verification code) for online commerce in US?

Terry: In US, we have different ways to deal with this fraud issue. Merchant networks have a more important role in this progress. The security secure enables merchants ask for one-time password in order to identify the transaction. We just follow this practice and provide tools to merchants. It will be more at the merchant's discretion.

Nakul: It's always a trade-off users' experience and security. To help avoiding fraud, some companies like PayPal, store the information of users and could instantly identify them to avoid fraud. You will see apple pay, amazon pay at the e-commerce checkout, because they are the ones to identify the transactions.

Thanks very much for your interest! This is the pilot panel for series of innovation forums-Keep tuned in!

Written/Edited by Jessie Liu/Cyndy de Nuño.

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