The Future of Money:
New Payments, Currency, Banking, and beyond
Table of contents

1. The future of currency
   Crypto futures 07

2. The future of payments
   Invisible payments 12

3. The future of banking
   Millennial banking 18
   Banking for social good 20
   New banks 23
   Visual shift 27

4. Global snapshot
   Southeast Asia 31
   China 36
   India 41

5. By numbers
   New financial offerings 48
   Banking 49
   Payment options 53
   Cryptocurrency 55
   Corporate reputations 56
   Personal finances 58
The past 12 months have been a watershed for the way people use money, and for the very way they think about it. A number of era-defining innovations have emerged—many of them long in the making—and their effects will be profound and long-lasting. Some of these changes are technological in nature: new products have appeared, aimed at making payment an increasingly frictionless, almost invisible, experience, carried out simply by tapping one’s phone, or even by smiling at a camera. Other shifts concern the wider finance and banking landscapes. Once the preserve of a handful of large incumbents, these sectors are now brimming with upstarts vying to cater to more tech-savvy customers. According to Venture Scanner, at least 2,600 fintech startups were founded between 2012 and 2017, offering services ranging from banking to insurance and investment.
In general, the sector is undergoing a phase of ever-increasing decentralization, clearly exemplified by growing mainstream awareness about cryptocurrency. Bitcoin, the first and original cryptocurrency, went through a frantic period of vertiginous price rise, touching $20,000 in December 2017. The digital currency has also made its debut on Wall Street, with bitcoin futures being traded on major exchanges. Cryptocurrency has been reinvented as a novel fundraising method for technology startups and large companies alike, thanks to the mechanism of the Initial Coin Offering (ICO), or token sale, which is slowly shunting aside traditional sources of financing such as venture capital (VC). Established non-tech brands have also started minting cryptocurrency tokens as part of their strategies for encouraging customer loyalty.

Further decentralization is also being engineered at a higher institutional level. The European Union’s newly implemented directive Second Payment Services Directive (PSD2) — which, in the UK, has been expanded under the umbrella of Open Banking legislation—requires that every bank makes customer data available in an open, secure format and, in Britain, in a standardized template. This is aimed at enabling customers to share their information with third parties, including fintech startups, and take advantage of more products and services. The extent of Open Banking’s impact on the banking industry is still to be gauged, as the directive only entered into force in January 2018, but the new regulatory makeup is sure to increase competition in a sector that is already ripe for major disruption. It may also set a template for other countries to adopt, prompting more far-reaching disruption and new models elsewhere.
None of these trends are happening in isolation and Open Banking is bound to encourage more fintech companies to open. The industry is blossoming, thanks to emerging technologies such as mobile payments and facial recognition, and this will in turn drive innovation further ahead. Cryptocurrencies and the blockchain technology underpinning them—for the uninitiated, blockchain is a constantly updated decentralized digital ledger—will add more dynamism to the mix, providing alternative solutions for money transfers, and could be added to some fintech services as investment opportunities. The result might be a complete reinvention of the very idea of money and currency.
The future of currency
n late 2017, bitcoin’s steep price increase, coupled with Wall Street’s renewed interest in the original cryptocurrency, yanked it under the media spotlight for weeks on end. But bitcoin’s surge is only one facet of a larger story: it is in fact cryptocurrency technology as a whole that has been gradually entering the mainstream.

2017 witnessed the rise of ICOs, or token sales—a novel fundraising model built on top of Ethereum, a bitcoin competitor. The Ethereum network allows anybody to mint their own digital tokens or coins and sell them online in exchange for cryptocurrency or fiat money. This feature has been seized upon by tech startups and restyled as a way of crowdfunding the development of new products: supporters of a startup project can choose to fund it by simply buying the tokens, which can generally be used to access the token-issuing company’s product, once it has been built. Tokens, for instance, could work as a mini-currency on an e-commerce platform, or represent special objects in a video-gaming community.
“All assets are going to be tokenized in the future. That means anything physical or digital that can be exchanged will have a digital representation of that object through a token.”
— Lex Sokolin, global director of Fintech Strategy, Autonomous

Speculation on tokens, and the anonymity of people starting and participating in ICOs, have resulted in distortion, controversy and scams. But, all the same, the model has taken off as an alternative financing system for startups who struggle to catch the eye of institutional investors. According to British cryptocurrency-focused fund Fabric Ventures, blockchain companies raised $5.6 billion from token sales in 2017, as opposed to $1 billion from VC. More importantly, larger established companies have also started to dabble with token sales. Messaging app Telegram’s scheduled ICO has secured the backing of major VC firms such as Kleiner Perkins Caufield & Byers, Benchmark, and Sequoia Capital. Fast-food chains KFC and Burger King, and erstwhile photographic film giant Kodak, are some of the traditional corporations that have turned to tokens. Burger King is rewarding its Russian customers with cryptographic WhopperCoins that can be exchanged for burgers, an innovative way to foster customer loyalty. Kodak is using its KodakCoins as a revamping opportunity, ostensibly to allow photographers to get paid for image rights through the blockchain.

This sudden token mania may sound gimmicky and, in part, it is. But it is unlikely to go away anytime soon. “All assets are going to be tokenized in the future. That means anything physical or digital that can be exchanged will have a digital representation of that object through a token,” says Lex Sokolin, global director of Fintech Strategy at research institute Autonomous. “Tokenizing burgers or photos or collectibles highlights the potential of the crypto economy.”

Sure, the mechanism might need some fine-tuning. Companies will have to experiment with crypto, and not just exploit the ICO novelty to raise money through a faddish stunt. There are “hundreds of things” that could be tokenized to some useful effect, Sokolin believes. “I’d rather use dollars to buy a sandwich but I may want to own and trade virtual reality burgers that have scarce value and are on a blockchain issued by Burger King. Or perhaps, if all burgers are made by robots, I may want to own tokens that pay for microservices between the robots,” Sokolin says. What’s clear is that many companies and organizations are looking at cryptocurrency technology with interest, but are
more skeptical about tokens. To many, the real value of bitcoin seems to be not the actual currency, but the network powering its transactions. Bitcoin’s digital scaffolding, known as the blockchain, is a cryptographic log maintained by a peer-to-peer swarm of computers, which keep it continuously updated. The decentralized makeup ensures that there is no single point of failure, making it hard to hack or tamper with the network in order to forge transactions. These features have rendered blockchain tech attractive to entities who need an effective method to exchange information (about anything from money transfer to property ownership) without relying on a third-party mediator.

The hype about the blockchain started spreading at least as far back as 2013, following the collapse of bitcoin exchange Mt Gox, which put many techies off the idea of bitcoin as a currency, but the past 12 months have witnessed the emergence of some advances in this field.

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In December 2017, the Australian Securities Exchange announced that it would adopt blockchain technology for speeding up equity transactions. Other major banks and institutions have also partnered with blockchain ventures (such as R3 and IBM, which is working on blockchain project Hyperledger) to explore possible ways of harnessing blockchain to improve areas ranging from clearing and settlement to loans and financial trading. There is one big caveat, however: most of these corporate blockchain-focused projects are not actually about blockchain technology as envisioned by bitcoin’s mysterious inventor Satoshi Nakamoto (a pseudonym used by an unknown individual or group of people who launched bitcoin in 2009). The system was originally developed to escape governmental control of currency value and was steeped in libertarian ideology. Today corporations use the technology most commonly for private, invitation-only proprietary ledgers which renounce “mining”—a key element of the bitcoin blockchain that involves verifying transactions through a time and electricity-consuming process of puzzle-solving. In a way, therefore, it is not novel blockchain technology that is making a difference in finance and banking, but much older decentralized ledger tech.

While some observers deplore the hype, other think that the current cryptocurrency craze had the merit of making companies excited about decentralized ledgers and their potential. And only a few purists actually care about the distinction. Stefan Thomas is the chief technology officer at Ripple, a decentralized ledger company backed by banks including UniCredit, UBS and Santander, which is using a token-powered network to speed up remittance payments. “What I have learned is that a traditional blockchain is going to solve trust problems in transactions, but it comes at a cost as the system has more redundancy, so it’s more expensive and harder to coordinate. It’s not always worth it,” Thomas says. “How often has your bank stolen money from you? Not very often. So, do you really need a blockchain or can you just rely on a centralized ledger and use that? In most cases a centralized ledger will do the trick.”

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86% of American and 66% of Chinese cryptocurrency users have used Bitcoin. (see page 55)
The future of payments
ew sectors are being transformed by emerging technologies as dramatically as payments.

Technology giants and banking incumbents alike are increasingly looking at innovative tools, from facial recognition to near-field communication (NFC) devices, to do away with plastic-based payment and bring about a fully cashless world; one where people pay for their coffee just by waving their phones or smiling at a camera. Asia, and China in particular, are leading the way in this sector—in some cases aided by a more cavalier attitude towards privacy and data protection—and are being trailed by Silicon Valley household names and other technology firms.
The popularity of facial-recognition currency in China is a clear adoption of this trend.

In September 2017, Ant Financial—a subsidiary of Alibaba, China’s answer to Amazon—struck a partnership with a KFC restaurant in Hangzhou, allowing customers to “Smile to Pay.” An in-store 3D camera now analyzes each customer’s face and, by zeroing in on 600 facial features, matches the client with their account on Alibaba’s Alipay payment service, which already allows users to sign in on their mobile app by showing their face. Stronger security is added by liveness detection, with computer vision algorithms making sure that the face shown to the camera is not a picture or footage of somebody else.

Baidu, another Chinese tech giant, is also experimenting with facial recognition technology, allowing its own employees to pay in the company’s canteen by showing their faces. (Baidu is also trialing facial recognition in a Beijing KFC, with the ambitious aim of reading customers’ faces to predict their orders.) Other firms, including Samsung, PayPal, MasterCard and NEC, have announced they are looking at the technology’s potential for novel forms of payment, too, but China’s massive government-owned photo-ID database could give Chinese companies a decisive edge.
Asia is also ahead of the curve when it comes to mobile payments, at least in terms of adoption. According to electronic payments company ACI Worldwide, customers are more likely to pay with their smartphones in India (where 56% of customers say they regularly use mobile wallets for their purchases) and Thailand (51%), than they are in Spain (25%) or the United Kingdom (14%).

Mobile payments are also popular in China, where the digital-wallet market is dominated by Alipay and WeChat. Both systems rely on QR code-scanning rather than NFC technology, which is the standard in Europe and the United States. In the West, the mobile-wallet sector is the preserve of a handful of major players in the mobile sector, such as Apple, Samsung and Alphabet—the companies behind Apple Pay, Samsung Pay and Google Pay, respectively. Yet, Europe’s PSD2 directive, which will force banks to open up their customers’ account information, might encourage smaller companies to try their hands at mobile payments. “This will open the door for a range of new players in the payments market and we may see mobile becoming the new plastic sooner than we thought,” said Mark Ranta, ACI Worldwide’s head of digital banking solutions, in a September 2017 statement.

A spokesperson for the UK’s Open Banking Implementation Entity concurs: “Open Banking could become embedded in many lifestyle propositions. New ways of managing money, of making life-changing financial decisions, of paying for things, will appear.”

New ways of managing money, of making life-changing financial decisions, of paying for things, will appear.” In the long run, China-based mobile payment systems could also achieve global influence, as the tourism and hospitality sectors invest in catering to moneyed Chinese travelers visiting Western countries. Over 90% of Chinese tourists would like to use mobile payment abroad if given the opportunity, according to a survey published in 2017 by Nielsen and Alipay. In this respect, Finland could provide a glimpse of the future as, in early February 2018, it was announced that a group of Chinese travelers had concluded a totally cashless trip to the country. In partnership with Alipay, immediate mobile payments were made available in taxis, shops, museums, airport terminals and on Finnair’s planes. After initially introducing the service in late 2016, the Nordic country is now one of the few places outside China where Alibaba’s mobile wallet has achieved near-ubiquity as a payment method.
Some companies wonder whether payments will necessarily have to pass through smartphones in the future and several brands have been toying with the idea of embedding NFC technology into other objects.

For the 2018 Pyeongchang Olympic Winter Games, Visa created NFC-equipped gloves, stickers and pins that allowed fans and athletes to pay for goods and services in the Olympic Villages. (The company had already done something similar for the 2016 Rio Olympics, producing special NFC-powered rubber wristbands.) In January 2018, Adidas released new running shoes that doubled as tickets on Berlin’s public transport network.

Whether it’s carried out using a smartphone, a shoe or a ski glove, contactless payment could be expanded to include more functionality than just money transfers. According to mobile engagement platform Urban Airship, customers would like the technology to be repurposed as a way of carrying around loyalty cards, flight boarding passes and event tickets. The ideal endpoint is a scenario where a single mobile wallet can multitask as a universal pass for accessing everything from the theater to the subway.
Others are envisioning a future in which payments do not take place through a shop’s point of sale, but online, through social media. In China, Tencent-owned messaging service WeChat boasts over 900 million monthly users. WeChat already allows users to link their bank accounts to the mobile app in order to pay in selected stores and carry out peer-to-peer money transfers with other users. Something similar has also been happening in the West, where image messaging app Snapchat has been offering its Snapcash payment feature since 2014. Social networking service Facebook has also entered the payment fray: since 2015, people using Facebook’s Messenger messaging service in the United States have been able to send money from their bank accounts to other friends using the app. The feature was rolled out in the United Kingdom in November 2017. Messenger’s payment infrastructure is made possible by partnerships with brands including PayPal, Stripe, Visa, Mastercard, American Express and Discover Card. This infrastructure, coupled with Messenger’s support for conversational interfaces, is also enabling businesses to create autonomous Messenger bots capable of interacting with customers and receiving payments. While most of these companies are e-commerce platforms, some fintech companies, such as British startup Plum, are using Facebook Messenger’s bot to provide financial services to Facebook users. Once again, Open Banking regulation is likely to accelerate the pace of innovation in this area.

Beyond Apple, Amazon and Google, Facebook is another player undoubtedly keen on upping its payment game and, in February 2018, Facebook-owned messaging service WhatsApp announced that it would start providing a user-to-user payment feature in India. What’s clear is that payments are becoming seamless, intuitive, and the focus for tech, retailer and brand players battling for loyalty and consumer payment data. Watch this space.
New banking models
Banks and fintech companies need to evolve to accommodate what will soon be the largest, most diverse and wealthiest group of consumers: the millennials.

By 2019, 20-35-year-olds will outnumber baby boomers, and the traditional structures the big banks have been catering to for decades are being replaced by more progressive ones—millennials are waiting longer to get married and many are cohabitating until then, others are living on a flexible income from the gig economy, and still others face a plethora of new financial variables.
Fintech startups are looking to cater to the specific needs and lifestyles of millennials that banks alone don’t cover. The money management app is a particularly popular offering—just over 40% of people in their twenties have downloaded one, according to global payment technology solutions company First Data. To serve the consumer bogged down by online subscriptions and retail credit cards, apps such as Clarity Money guide users towards taking small steps to save money. To make shared accounts easier to manage for couples, Honeyfi keeps track of purchases on one screen.

According to a 2016 Harris poll, 80% of millennials don’t invest in the stock market, as they don’t know how or think they don’t have enough funds. This has driven startups such as Stash and Acorns to provide easy ways to invest. Acorns, for example, lets users automatically put spare change from daily purchases into a low-risk investment portfolio. New apps are constantly popping up to solve new problems that go beyond the conventional framework of the big banks.
Millennials are more concerned about making socially and environmentally responsible purchases than previous generations—a 2015 Nielsen study revealed that 73% of millennials would pay more for a sustainable brand.

This sentiment extends to the fintech industry, where banks are responding to a demand for CSR by offering customers the mobile tools to make more ethically conscious purchasing decisions.
Mainstream investment firms are also breaking with the tradition of choosing stocks that bring about the highest profits in order to appeal to millennials. For some banks, this means helping customers achieve a comprehensive understanding of how their spending habits impact the world around them. Financial services company Aspiration, headquartered in California, does this by assigning enterprises a score that reflects how they treat employees and the environment, and users see this rating every time they make a purchase with Aspiration’s app. The Bank of Åland in Stockholm, Sweden, provides a service that helps clients track their carbon footprint.

Mainstream investment firms are also breaking with the tradition of choosing stocks that bring about the highest profits in order to appeal to millennials—in 2017, Fidelity launched new socially responsible index fund options that feature companies with an eco-conscious or socially conscious focus. There are also newcomers such as Swell Investing, which offers investment portfolios of firms whose missions reflect sustainability goals listed by the United Nations, including renewable energy, green technology and zero waste.
In China, where corruption and a lack of accountability have stifled the development of philanthropy and industries focused on social good, fintech companies are getting creative to offer their millennial customers a fun, easy, and trustworthy way to give back. Alipay, the third-party mobile payment giant operated by Ant Financial, an affiliate company of Alibaba, uses gamification on its Ant Farm app to encourage its users to earn ‘hearts of love’ for charities—these are then matched by Alibaba as actual payments.

Similarly, its Ant Forest app offers users an interactive incentive to support environmental initiatives by making purchases that have a low carbon footprint, such as trips on public transportation. The more users reduce their consumption-related climate impact, the more ‘energy points’ they collect, which they can eventually put towards planting a real tree. Ant Financial feeds users live footage of fields in the Inner Mongolia region so that they can actually see their trees being planted. The company says that, as of May 2017, more than half of its 520 million users had signed up for the Ant Forest service and that it has planted over 13 million trees, offsetting two million tons of carbon dioxide emissions.
s big banks race to update their services to sway the rapidly swelling group of 18-35-year-olds, a number of opportunists have come onto the scene in a bid to appeal solely to the smartphone generation with finance apps that strive to make banking as easy as checking Facebook.

They’re catching on fast with users—Revolut, a UK-based fintech startup, is gaining clients at the rate a viral Twitter post gains followers. At the end of February 2018, it hit 1.5 million users, who are able to buy travel insurance, trade cryptocurrencies, easily exchange money abroad and open a credit line, all within a mobile app. Revolut, which is in the process of applying for a banking license, is seeking to woo millennials with its simple, design-led approach. This even carries through to its premium debit cards, which are available in the rose gold color supposed to be a millennial favorite and are “handcrafted” and delivered to customers in minimalist foil-block packaging.
British bank challenger Monzo already has its banking license and offers users an easy way to instantly keep track of spending habits, while peppering its communications with customers with emojis. The Guardian calls Monzo “a truly unusual thing—a bank young people are excited about.” Half its users are under 30 and the company raised £1 million in crowdfunding in under two minutes when it first came onto the scene in 2016. Its founder, Tom Blomfield, who happens to be a millennial himself and has very little experience in the financial industry, tells the Guardian that Monzo’s users love it for its “real-time visibility and control,” which reflects those qualities in other smartphone apps they use on a daily basis.

“Expectations are no longer set by other banks, but by the apps we use every day. From Citymapper to Spotify, Deliveroo or Slack, these companies put the customer at the heart of what they do, to create super-seamless experiences that actually enhance our lives,” Tristan Thomas, head of marketing and community at Monzo, tells the Innovation Group.
There are also issues with the way that the big banks operate, says Thomas. “They’re slow to innovate, their business practices are opaque, and they don’t put the best interests of their customers first.” Monzo, says Thomas, aims to be a bank that is “totally transparent, treats its customers fairly, and works hard to understand and meet their needs. We want to build a new kind of bank, one whose interests are aligned with those of our customers.”

Other competitors that have popped up in this space have drawn similar conclusions about the best way to attract millennials. Da Vinci Choice provides users with a universal card that seamlessly brings together their other card accounts and creates one-time use PINs for online purchases to prevent fraud; Starling assesses users’ spending habits to present them with personalized saving goals; Atom provides mortgages with mobile-only banking; and, like Revolut, N26 provides users fee-free exchanges when traveling internationally.
Some of the new digital banks are being pushed to innovate even further, due to a new movement in the European Union called open banking. The directive has nine of the UK’s biggest banks sharing data with licensed third-party firms, with the approval of account holders. This means startups such as Monzo and Revolut could let customers manage every aspect of their finances—paying their bills, making investments, or buying insurance—all in one place, instantly assessing how financial decisions in different categories impact each other.
one are the days when banking was complicated and corporate. Millennials’ attention spans are getting shorter and their digitally savvy, hyper-connected lifestyles demand services that are intuitive and user friendly. Banking and financial management need to be simple in their interfaces and also approachable and appealing in both their visual aesthetic and in the way they communicate with users.

Both traditional banks and newcomers are recognizing this and prioritizing modern design and branding in their strategies. UK bank NatWest announced in 2017 it was hiring an 80-strong team of software engineers, designers and analysts to rebrand its website for its millennial customer, opting for easier navigation, more relevant content creation and modern graphics. Its typeface was altered to a style favored by other millennial-focused corporations like Airbnb and Spotify.
“To be relevant to today’s discerning customers, banks need to make design a cornerstone in their strategy,” writes Designit CEO and founder Mikal Hallstrup for Design Week. He cites Pepper from Israeli Bank Leumi as one of the ultimate examples of a bank taking “radical” action with an app designed to reach a younger audience. On its website, Pepper has a cool factor reminiscent of a millennial-centric beauty brand, with photos of millennial women and cute GIFs, while the app itself is a space where customers can easily visualize their spending while they are on the move.

Fintech startups know it’s images that resonate with mobile-savvy users and they’re also leveraging social media. The Acorns micro-investment app produced short videos and a song that made the rounds on Snapchat and YouTube, and markets itself to users through Pinterest. Here, Sami Khan, Acorns’ senior director of marketing tells Forbes.com, Acorns’ marketers can learn exactly what its users’ interests are, and make educated guesses on how they might be spending their money—and are thus able to craft a hyper-customized advertisement.
Banking is also becoming more accessible not just through the changing tactics of the financial providers themselves, but also via media companies catering to a largely millennial audience. Lifestyle-focused digital publication Refinery29 launched Money Diaries in January 2016, inviting young female professionals to post detailed, week-long anonymous diaries tracking their daily spending. It aims to give readers a realistic sense of how people like them from across the United States and United Kingdom, from a diverse range of financial backgrounds, manage their money, with challenges like student loans to pay off and a Netflix bill to boot—insight that millennials will be hard pressed to find at a branch of their local bank.

Fintech startups know it’s images that resonate with mobile savvy users and they’re also leveraging social media.
Global snapshot
Singapore has long been a shipping, trading and financial hub for Southeast Asia. Now it wants to be the region’s fintech hub too.

In July 2017, seven retail banks in Singapore launched a mobile system for transferring funds instantly with just a mobile number or a government-issued identity card number (NRIC). More than a million people in this nation of 5.6 million have registered as users so far, the Straits Times reported in February.

Steven Raynaldi Li uses PayNow to split dinner bills and taxi fares with friends. Li, the 27-year-old co-founder of a software startup, tells the Innovation Group he no longer has to borrow money or hike to the nearest ATM. Others are using PayNow to donate to charity, and the government says it will soon use PayNow to disburse cash awards to deserving students at public schools, replacing paper checks.
PayNow, recently introduced a QR code system for Singapore’s famed food hawkers, so consumers can buy a bowl of noodles using their smartphones.

PayNow is just one of a range of new e-payment systems available in the city state, which also includes China’s Alipay, Google Pay, Apple Pay and GrabPay, owned by Grab, an online ride-hailing service. Meanwhile, e-payments pioneer Nets, operating with the banks behind PayNow, recently introduced a QR code system for Singapore’s famed food hawkers, so consumers can buy a bowl of noodles using their smartphones.

But having new e-payment options is no guarantee that people will latch on to them.

Cheong Poh Kwan, a journalism lecturer at Ngee Ann Polytechnic, says she registered for PayNow early on, but now uses it less than once a month. She continues to use an older banking app to split dinner bills with friends, since she already has their bank account numbers set up on that app. She uses another app called WorldRemit to transfer money to family in neighboring Malaysia. For rides, she uses GrabPay.
With all those existing options, PayNow “didn’t quite bring any extra benefit,” Cheong, 33, tells the Innovation Group. Therein lies the crux of Singapore’s e-payments conundrum. In his 2017 National Day Rally speech, prime minister Lee Hsien Loong said the country needed a single e-payment system, noting that there were “too many schemes and systems” that were “inconvenient for consumers and costly for business.”

Despite the country’s high-tech reputation, consumers in Singapore still rely mostly on cash and checks (although check use has been declining steadily), according to a 2016 report commissioned by the Monetary Authority of Singapore. The report, by international consultancy KPMG, attributed this partly to entrenched behaviors and partly to the fact that multiple payment systems are not interoperable, and estimated the cost of using cash and checks at 0.52% of gross domestic product.

The KPMG report found that cash still dominated more than 80% of transactions at traditional markets, hawker stalls and neighborhood stores; more than 70% of payments to domestic helpers; and more than 70% of monetary support payments for aged parents. By contrast, payments for household utilities, credit card bills, medical bills and school fees were dominated by a variety of e-payment methods.

To encourage more people to go cash-free, Singapore is introducing legislation to streamline payment services. It is also trying to assure Singaporeans they are not giving up security in exchange for convenience.
In February 2018, the government proposed guidelines to help allay consumer fears of unauthorized transactions, including making banks responsible for notifying customers of e-payment transactions by text or email so they can keep track. In cases of mistakes caused by “fat fingers,” or typos, where money is transferred to the wrong account, banks on the receiving and sending ends are expected to work with the consumer to rectify the mistake within a week.

The government is also looking beyond its borders. Later this year, Singapore expects to link PayNow to its Thai equivalent, PromptPay, allowing people in both countries to send money to each other using their mobile phone numbers.

Elsewhere in Southeast Asia, e-payments are also catching on, including in unexpected settings.

In the Philippines, several startups built on blockchain platforms—such as Coins and Toast—are offering remittances services for overseas Filipino workers, with lower transaction charges than those levied by banks, Forbes reports.
In Malaysia, roadside stalls selling durians—the stinky fruit with the thorny husk and creamy flesh that’s a local delicacy—have started accepting Alipay, the mobile payment system owned by Chinese tech giant Alibaba.

Even the traditional gifting of lucky money in red packets—ang pow—at Chinese New Year is undergoing a cashless overhaul. Maybank, the country’s biggest bank, offers customers the option of sending an e-ang pow using a recipient’s mobile phone number. Singapore’s DBS Bank offers a similar service.

The banks say e-ang pow transactions are rising each year and according to DBS, the number of e-ang pows sent in 2017 was five times higher than the number sent in 2016. More Singaporeans are spending Chinese New Year abroad, making this a convenient option. But electronic gifts aren’t for everyone. The handing over of lucky money in red envelopes, proffered and received with both hands and accompanied by a new year’s greeting, is still a cherished tradition for many.

The e-ang pow “does not have the same feel as giving a physical one,” Serena Loh, a 59-year-old Singaporean homemaker, told the Today newspaper in Singapore. “It lacks the physical interaction.”
Cash is in danger of becoming obsolete in China. The growth of mobile payments exploded in just two years, from $340 billion in 2015 to $9 trillion the following year, according to iResearch. In the first 10 months of 2017, Chinese consumers spent $12.8 trillion in mobile payments, according to official figures from China’s Ministry of Industry and Information Technology.

This industry is dominated by two third-party payment giants, Alipay and WeChat Pay, which enable consumers to do anything from buying a baozi bun from a street-food vendor to taking home a coveted luxury handbag with the simple scan of a QR code on their smartphone screen.
Mobile payments make up just one, albeit major, part of China’s booming fintech industry. About 98% of China’s 772 million digitally savvy consumers are accessing the Internet through their smartphones, according to eMarketer, a figure comparable to that in the United States, where eMarketer estimates penetration of just over 93%. And, unlike the United States, where fintech startups are developing customized apps for solutions to customized problems, China’s payments giants are cooperating with companies across a wide variety of sectors, including dining and travel, to ensure users almost never have to leave their app to make transactions.

Globally, China already has a major stake in fintech’s development—about one-third of the total fintech startups with a valuation more than $1 billion are from Greater China. The story behind China’s fintech boom looks very different from that of the United States—in China, there isn’t a culture of credit card use and most of the country’s banks are state-owned, meaning their priority, historically, has been to serve other state-owned enterprises, as opposed to individuals and small businesses.

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In the past five to 10 years, however, fast economic growth and the rising wealth of the middle-class consumer have created a need for financial solutions, and China’s smartphone generation is open to payment innovations that are fast and convenient. Chinese fintech leaders are making major investments in technologies that are fueling the advancement of the global fintech industry, including artificial intelligence (AI) and blockchain. There’s still plenty of room for growth, too, as about half of China’s population still doesn’t use the internet or have easy access to banking solutions.

China’s third-party payment giants: Alipay and WeChat Pay

As of 2016, more than 90% of mobile payments in China took place via Alipay, which is operated by Alibaba’s affiliate firm Ant Financial, and Tencent’s WeChat Wallet. Alipay came onto the scene first, and the latest figures show Alipay still takes up slightly more market share compared to WeChat, at 54% compared to Tencent’s 40%.

Alipay’s rise was supported by the rapid growth of China’s e-commerce industry. Without a strong history of using credit cards to pay for products online, millennial shoppers were easily enticed by Alipay, after its launch in 2004, for its ease as a third-party payment solution on Alibaba’s Taobao e-commerce platform. By 2011, it had adopted the QR code as a way of making mobile payments offline, but very few brick and mortars had adopted the technology.

A year later, Tencent’s social media platform WeChat also introduced QR codes, at first as a way for users to quickly add friends to their account. Soon after, QR codes became WeChat’s solution for making offline payments by linking a bank card to the app. Consumers were quick to adopt and so were businesses. Fast forward less than six years and nearly every venue in China’s big cities offers an instantaneous payment experience with a quick phone scan.

The grip of mobile payment on Chinese consumers is so strong that even China’s leading bank-card provider, UnionPay, has tried to increase its 17% market share of the third-party payment industry by introducing a mobile payment service called QuickPass. This means consumers can now use their mobile phones to access their bank accounts at commercial banks around the mainland and in some overseas destinations.

All-in-one apps and New Retail

WeChat Pay and Alipay began as very different platforms with different functions, but they share a common goal—both are striving to become an all-in-one tool that can be used to perform daily tasks. While Alipay’s parent company Ant Financial continues to serve consumers not just in mobile payments, but in almost every aspect of banking, WeChat’s mobile payment system is functioning within a one-to-one social media messaging platform. Tencent continues to expand its investments and partnerships so...
that, with the aid of WeChat’s payment system, users can book cabs through China’s Uber-like Didi Chuxing, order food deliveries, pay phone bills, shop online and even make charitable donations.

Alipay’s growth is following a similar pattern. In February, Alibaba took over food delivery platform Ele.me, with industry insiders speculating that the purchase will help the company strengthen its mobile payment offerings. Alibaba has also made significant progress in its New Retail concept, which is seeing brick-and-mortar stores across China integrate online and offline commerce, similar to Amazon Go in Seattle.

**Taking mobile payments abroad**
China’s mobile payment industry isn’t contained within its borders. As Alipay and Tencent become household names domestically, both companies are working with governments, tourism boards, and retailers overseas to facilitate their expansion and grab a slice of consumer spending, which reached $115.3 billion in 2017, according to China travel booking giant Ctrip.

Chinese travelers who are already used to mobile payments at home, but might otherwise use a credit card for larger payments abroad, are incentivized to use Alipay because of its instantaneous feedback on exchange rates and currency fees, and instant tax rebates in some airports. Both Alipay and WeChat have been working with merchants to establish discounts and loyalty programs for tourists overseas, including WeChat’s popular “red packet” feature that lets consumers digitally send and receive money. This Chinese New Year holiday tradition was one of the major factors that helped WeChat’s payment platform rise to the top.
Alipay has also recognized the possibilities beyond payments in the outbound tourism market. A study conducted by Airbnb showed that more than 40% of those surveyed would choose traveling over investing in fixed assets, and Alipay is working to make this easier for consumers through its Travel Deposit savings feature, introduced in 2017. The app helps users set and determine daily savings goals and puts a fixed amount into Ant Financial’s mutual fund, Yu’e Bao. Given China’s strong social media culture, Alipay has integrated WeChat with Travel Deposit app so that users can share their travel goals with friends.

### Online lending

Aside from mobile payments, online lending is the other major fintech category giant in China, and it’s easy to see why. While credit card use is common in the United States, less than 10% of Chinese consumers had access to a credit card in 2014, according to World Bank data. While Alipay offers lending, in addition to investments and other related banking services, the market has seen an explosion of microlenders, such as Ant Financial-backed Qudian, that serve a swathe of millennial consumers with insufficient credit history to find support in China’s big banks. The market for microlending is expected to swell to nearly $79 billion by the end of 2018, according to iResearch.

The lending landscape is subject to change, as it still remains largely unregulated. In November 2017, China’s central bank cracked down, announcing it would no longer be issuing licenses to new startups. Some microlending companies have faced criticism for preying on inexperienced Chinese millennials with an appetite for big spending as luxury goods become increasingly attainable to them.

As a fintech analyst with iResearch told the South China Morning Post, “compared with other well-established internet companies, fintech companies in China are still newborns and are facing uncertainty, not just in terms of regulatory levels, but also in public opinion.”
India’s e-payments sector is booming, helped along by a cash shortage and a flood of cheap mobile data plans.

There are a billion mobile phone subscribers in this country of 1.3 billion people, according to the Telecom Regulatory Authority of India, and about 300 million are smartphone users. For many Indians, mobile phones offer not just a way to access the internet, but also to use financial services for the first time. According to Credit Suisse, digital payments in India are expected to grow from $200 billion to $1 trillion in the next five years.

Local and global providers of e-payments and mobile wallet providers have jumped into the fray. They include Indian telecoms-linked players such as Airtel Money, market leader Paytm, which is backed by China’s Alibaba, and homegrown MobiKwik. Then there are Google’s Tez (the Hindi word for fast), Samsung Pay, Amazon Pay and Facebook-owned Whatsapp.
Digital payments in India are expected to grow from $200 billion to $1 trillion in the next five years.

All this is moving swiftly, in spite of the recent demonetization uproar.

In November 2016, when India’s prime minister Narendra Modi abruptly banned high-value notes—invalidating 86% of cash in circulation—his goal was to clamp down on corruption, tax evasion, terrorism funding, and counterfeit notes in the country. The thinking was that anyone with legal money would deposit it in the bank, while crooks would rather forfeit the cash than risk exposure.

The overnight ban wreaked havoc on daily life for months. With new notes in short supply, snaking queues formed at ATMs in towns and cities around India, and the heavily cash-dependent economy slowed. The ban’s repercussions have been especially hard on small retailers and businesses employing casual or migrant workers with no bank accounts.
As it turned out, 99% of the notes in 500-rupee and 1,000-rupee denominations were returned, raising the question of how successful the exercise was in eliminating so-called black money.

However, demonetization—popularly known as DeMo in Indian slang—may have been more successful in another area: encouraging the use of e-payments.

After the cash ban, digital wallets such as Paytm, MobiKwik, FreeCharge and Citrus Pay quickly took advantage of the cash vacuum, signing up millions of customers and vendors, Reuters reported.

New players entered the market. Hike, an Indian mobile messaging service, branched out to offer a mobile wallet service. Google launched its Tez e-wallet service in September 2017 and Whatsapp, owned by Facebook, followed with its own version in February 2018.

When it comes to proximity mobile payments—tapping, swiping or scanning a mobile device at the point of sale—India is now the fastest-growing market in the world, albeit from a low base, according to eMarketer. The number of proximity mobile payment users jumped from 32 million in 2016 to 56.2 million in 2017, and is expected to surge to 130 million in 2021.

While payments dominate India’s fintech sector, other startups have emerged to offer insurance, credit, personal finance and cryptocurrency products, coalescing around the established financial center of Mumbai and the technology hub of Bengaluru (Bangalore), as well as Gurgaon, southwest of New Delhi, and Noida, to the capital city’s southeast.
The entry of new services has been fueled by cheap data plans, thanks to a price war waged by India’s telecommunications service providers.

Digital consumers
When it comes to ways to pay, Indians are spoiled for choice. Pulkit Singhal, a 32-year-old investment analyst in Mumbai, uses Paytm to pay for Uber rides and to order in Domino’s Pizza and other takeout dinners. “I’m not too keen on putting in my credit card details in any of the apps,” he tells the Innovation Group.

He still uses his credit card for large purchases, such as air tickets, to collect points and miles. But when ordering food or movie tickets, or when he’s in a hurry, he uses Paytm. When he rides with Ola, an Uber competitor, he uses its mobile payment app, Ola Money.

“The way I look at it, there are quite a few options out there,” he says.

Banking the unbanked
The entry of new services has been fueled by cheap data plans, thanks to a price war waged by India’s telecommunications service providers.

It also helped that the Modi government had rolled out a mass scheme several years earlier to enroll millions of previously unbanked Indians and help them open basic bank accounts—with no minimum balance requirements—along with services such as credit, insurance and pensions. That, coupled with the issuing of unique IDs for all Indians, laid the groundwork for today’s e-payment transactions.

As in China, the United States and elsewhere, the e-payment providers are looking beyond processing payments; they are vying to build marketing platforms for a variety of services.
MobiKwik, for example, is expanding beyond online and offline shopping, to allow services including bill payments, bus ticket bookings and hotel reservations. To entice users, it offers a combination of cashback and discounts called SuperCash.

MobiKwik was co-founded by Upasana Taku, who formerly worked for PayPal in Silicon Valley. She returned to India in 2008 and worked for a microfinance non-profit, before starting MobiKwik in 2011 with her husband, Bipin Preet Singh.

MobiKwik, which is backed by Sequoia Capital and Tree Line Asia, has proved nimble in a competitive environment. Less than a month after Modi announced the cash ban, the company rolled out MobiKwik Lite, an app that allows users to make digital payments even with a slow internet connection.

Last year, it partnered with state-owned telecoms provider Bharat Sanchar Nigam (BSNL) to develop a digital wallet that allows BSNL’s 100 million customers to pay bills and buy goods and services online.

“I wanted to solve a really big, first-generation problem in a large country,” Taku told Forbes India. “India turned out to be the place to do it.”
By numbers
Methodology

As part of our research for “The Future of Money,” we examined consumer attitudes towards money, banking, cryptocurrency, and financial habits. In March 2018 we conducted a survey of American and Chinese consumers using SONAR™, J. Walter Thompson’s proprietary research tool. We surveyed 2,000 adults aged 18+, 50% living in the United States (census-representative on age and gender) and 50% living in China (representative of internet user population).

Overview

The bigger picture is that younger consumers are increasingly expressing a greater appetite for new disruptive and digital financial products. In China, where many mobile payment and banking systems are widely used, this is particularly pronounced. While use of cryptocurrency and familiarity with blockchain in banking is still relatively latent in terms of mass consumer adoption, there is a rising interest and enthusiasm among consumers around their application—driven in part by large organizations and governments experimenting with their use. In both countries, there’s also a rising demand for banks to have social good or an ethical stance baked into their business models.
New financial offerings

Our survey found that China’s appetite for new digital payments and ways to bank is much more pronounced, though in the United States younger consumers are also adopting new models and innovations.

Chinese consumers are more familiar with up-and-coming financial offerings than Americans, most notably the following:

- 47% of Chinese consumers are familiar with FinTech, compared to 12% of Americans.
- 39% of Chinese consumers are familiar with Blockchain, compared to 19% of Americans.
- 25% of Chinese consumers are familiar with Open Banking, compared to 19% of Americans.
- 36% of Chinese consumers are familiar with Micro-investing, compared to 7% of Americans.
- 25% of Chinese consumers are familiar with Donation function, compared to 13% of Americans.
- 9% of Chinese consumers are familiar with Round-up app, compared to 21% of Americans.

With all the terms shown above, familiarity is higher among younger consumers and declines with age; also, men report higher familiarity with all terms than women (countries combined).

Chinese consumers are also more likely to have used these newer offerings in the past year.

- 36% of Chinese consumers have used Micro-investing, compared to 7% of Americans.
- 25% of Chinese consumers have used Donation function, compared to 13% of Americans.
- 21% of Chinese consumers have used Round-up app, compared to 9% of Americans.
China again is leading the way with adoption of mobile and digital banking—though, across the board, consumers are enthusiastic about banks embracing innovation, futuristic methods and new ways to interact with clients.

In both the US and China, just over half of consumers say they visit their bank in person at least once a month. There are no major differences across age groups.

Americans are more likely to use the bank’s website. While Chinese are more likely to interact via mobile.

Nearly all mobile users (smartphone/tablet) in China regularly use banking/payment/savings apps. Many Americans do as well, but the numbers are lower.
Chinese consumers are also more likely to have used alternative forms of ID in banking.

- Thumbprint: 62% (China), 32% (US), 9% (Combined)
- Facial recognition: 36% (China), 9% (US), 9% (Combined)
- Voice recognition: 17% (China), 9% (US), 9% (Combined)

Think it’s exciting that people can now use these alternative forms of ID in banking: 84% (China), 64% (US), 62% (Combined)

But many also worry about the security of doing so: 69% (China), 62% (US), 62% (Combined)
At least one-third of consumers say they would consider interacting with their bank through a smart speaker.

Half of Chinese consumers say they would use the Internet of Things vs. only 23% in the US.

Only 29% of Chinese consumers and 14% of Americans say they pay fees for banking; younger consumers are more likely to pay fees.

Across both countries, two-thirds feel it is okay for banks to charge fees for international money transfers and half feel fees are okay for exchanging currency; they are not as open to fees for the use of physical bank branches, withdrawals, or the privilege of using a bank.

Chinese consumers are more likely to look out for new and different forms of banking, saving, payment, and currency.

There is a clear preference for working with banks that are forward-thinking and embrace digital tech.
Millennials are also looking for new and different ways of banking; 76% of millennials (countries combined) agree that they are always looking to try new and different forms of banking, saving, payment, and currency. In China, older respondents are also highly likely to agree with this statement. But in the US, there is a sharp drop-off as consumers age.
Cash is still prevalent in both the United States and China, but new payment apps and payment systems are becoming more commonplace. Younger consumers are embracing a cash-free lifestyle.

**Payment options**

In both countries, the majority of consumers still use cash at least weekly. That said, most say they hardly ever use cash to pay for things anymore; younger consumers are more likely to agree, but this is still true for more than half of those aged 55+.

This differs by generation. Younger consumers in the US are increasingly becoming major adopters of a cash-free lifestyle.
Usage of banking/payment/savings apps is high across all ages in China. Chinese consumers are further along in adopting new forms of payment.

Americans primarily rely on cash, debit cards, and credit cards.

Weekly usage of payment apps

<table>
<thead>
<tr>
<th>App</th>
<th>18-34</th>
<th>35-54</th>
<th>55+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alipay</td>
<td>56%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>WeChat Pay</td>
<td>77%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Apple Pay</td>
<td>19%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Retailer mobile apps</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Apple Pay</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Google Wallet</td>
<td>4%</td>
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<tr>
<td>Amazon Pay</td>
<td>3%</td>
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<tr>
<td>Samsung Pay</td>
<td>3%</td>
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<tr>
<td>Venmo</td>
<td>3%</td>
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<tr>
<td>Facebook</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Retailer mobile apps</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Chinese consumers use retailer mobile apps primarily to save time and so they don’t have to carry cash/credit cards, while Americans primarily use them to get rewards.

50% of Americans use debit cards at least once a week vs. only 16% in China.

Again, in the US, younger consumers are more interested in these technologies, suggesting disruption ahead for banks seeking to court this group. Overall, younger consumers are more interested in these new emerging channels. 50% of American and Chinese millennials say they would use a smart speaker to interact with their bank vs. only 34% of 35-54-year-olds and 22% aged 55+.

Chinese consumers are more intrigued and excited by the idea of using facial recognition to make payments; Americans are more likely to feel anxious or scared; in both countries, one-quarter are indifferent to the idea.
Cryptocurrency

There is rising normalization of cryptocurrency and an increased appetite for it, even if it is not yet being used en masse.

Within both countries, just over a third say they are familiar with cryptocurrency and about half are familiar with Bitcoin.

![Familiar with cryptocurrency](image)

![Familiar with Bitcoin](image)

21% of Chinese and 12% of Americans say they have used a cryptocurrency in the past; 16% and 8%, respectively, in the past year.

![Usage of cryptocurrency declines with age](image)

Among those who have used a cryptocurrency, Americans have mainly used Bitcoin (86% US, 66% China), while Chinese consumers have also used other options (33% Ethereum, 18% Zcash, 17% NEM).

![Used a cryptocurrency](image)

Chinese consumers are more enthusiastic about cryptocurrency.

![Are excited to use cryptocurrencies in the future](image)

![Feel they know a lot more about cryptocurrencies now than they did a year ago](image)

![Trust cryptocurrencies](image)

[China] [US] [Both countries combined]
Recent data breaches have negatively impacted trust in financial institutions and make consumers worry about their own privacy and security.

74% of consumers say recent data breaches (such as the Equifax data breach) have negatively impacted their overall trust in financial institutions.

81% in both countries say recent data breaches make them worry about the safety of their own privacy and security.

Perhaps as a result, 54% of Chinese and 64% of Americans have checked their credit rating in the past year.
A company’s ethical behavior is a top concern for consumers in both countries—76% in China and 65% in the US say ethical behavior has become more important when choosing a financial institution over the past five years; this is especially true for women.

Surprisingly, following the global economic crisis, in the US, consumers still generally feel at least somewhat positive towards most of the big banks (more so for Chase and Citibank, less so for Wells Fargo).

Within the competitive set, the brands are differentiated as follows (among those aware of each):
Personal finances

When it comes to personal finances and the outlook on personal financial situations, generation is also key; 82% of American millennials and 63% of Chinese millennials feel that their generation has been hit especially hard financially. (This might explain why our figures show they are struggling to save.)

Three-quarters of consumers in the United States and China say they wish there were more financial products geared towards specific populations and today’s needs. This is especially true among millennials.

Across both countries, 75% of consumers feel it has become very difficult for most people to own property nowadays. Millennials are most likely to agree. Interestingly, single Americans are more likely to agree than those who are married.

Building long-term financial security is a priority for the vast majority of consumers in both countries, especially millennials—92% of Chinese and 87% of Americans strongly/somewhat agree.
Chinese consumers are saving a greater portion of their income (27%) than Americans (9%).

60% of Chinese and 29% of Americans say they have an investment account.

They are also less likely to have a savings account.

In the US, older consumers are more likely to have an investment account than younger consumers.

Discretionary income is spent as follows:

- Food: 61%, 40%, 26%
- Family: 70%, 49%, 49%
- Travel: 73%, 55%, 73%
- Healthcare: 45%, 33%, 33%
- Entertainment: 49%, 31%, 66%

Chinese are more likely to own property

They are also more likely to say owning property is a priority
About the Innovation Group
The Innovation Group is J. Walter Thompson’s futurism, research and innovation unit. It charts emerging and future global trends, consumer change, and innovation patterns—translating these into insight for brands. It offers a suite of consultancy services, including bespoke research, presentations, co-branded reports and workshops. It is also active in innovation, partnering with brands to activate future trends within their framework and execute new products and concepts. It is led by Lucie Greene, Worldwide Director of the Innovation Group.

About J. Walter Thompson Intelligence
The Innovation Group is part of J. Walter Thompson Intelligence, a platform for global research, innovation and data analytics at J. Walter Thompson Company, housing three key in-house practices: SONAR™, Analytics and the Innovation Group. SONAR™ is J. Walter Thompson’s research unit that develops and exploits new quantitative and qualitative research techniques to understand cultures, brands and consumer motivation around the world. It is led by Mark Truss, Worldwide Director of Brand Intelligence. Analytics focuses on the innovative application of data and technology to inform and inspire new marketing solutions.

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