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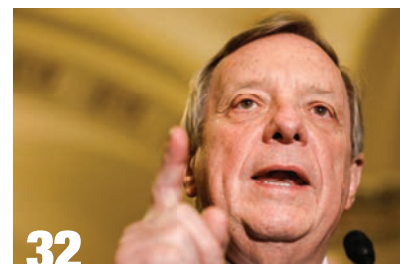
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Trump signs resolution killing arbitration rule

With little fanfare, President Trump officially struck down a Consumer Financial Protection Bureau rule that prohibited financial companies from including mandatory arbitration clauses.



MOST SHARED

Banks start vendor management firm

Bank of America, JPMorgan Chase, Wells Fargo and Amex launched a vendor management firm. TruSight will assess, validate and monitor vendors on behalf of the consortium, which is expected to expand.



BANKTHINK

Your customers aren't psychic

Focus on ensuring that your teams know why you make changes, and they will be far more likely to make those changes work for you, said Dave Martin, the founder of bankmechanics, in this op-ed.



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EVENTS

Editor's Note

BY BONNIE McGEER

CDFI Aims to Transform How Lending Gets Done

Much like traditional banks, community development financial institutions are trying to adjust to the digital revolution too.

The nonprofit Excelsior Growth Fund in New York is further along in that effort than most, and its president, Steven Cohen, has some insight to share with others in the sector looking to modernize.

He is a big proponent of technology and its potential to transform how CDFIs and banks work together.

Excelsior, which provides small-business loans and advisory services, focuses on those that typically cannot qualify for financing at a bank. The end goal is not to keep customers, but to help them move on to a bank eventually.

Cohen also aims to keep small businesses away from more unscrupulous lenders.

"The CDFI industry, like other segments of the financial services industry, is going through a process of adapting to the destruction that is going on," Cohen said. "We're seeing 20% of the market go to these online lenders," which are largely unregulated and in some cases predatory.

In response to that trend, Excelsior moved early on to offer its small-business loans digitally. It launched an online lending platform back in August 2015, through a partnership with the fintech startup Mirador, of Portland, Ore.

Its signature product, called the EGF SmartLoan, provides flexible financing of up to \$100,000. Prospective borrowers can apply online, be approved within a day or two and be funded within a week.

Two years on, the horizon is getting bigger and looking brighter.

Excelsior has bank partners that refer loans they are unable to do themselves to its digital channel – eliminating what used to be a more manual and time-consuming process.

The arrangement also addresses some of the hesitations that banks historically have had with such referrals.

"When they say 'no,' there are concerns over the predictability of what happens," Cohen said. "Banks want to avoid the double decline, and they also want to avoid going into a black hole," where they don't know what is happening with a loan so can't advise their customers.

Now Excelsior has an algorithm it can share, allowing banks to check whether the borrower meets the eligibility and credit criteria. "The bank can have absolute confidence that, if they screen for those factors, we're going to do the deal," Cohen said.

"It's the technology that facilitates that opportunity in a way that's predictable and transparent," he said.

Excelsior, an affiliate of New York Business Development Corp., concentrates on New York, New Jersey and Pennsylvania.

But other CDFIs nationwide also have been taking steps to increase their visibility,

reach and impact, and traditional banks stand to be a big part of that growth, with the opportunity to earn Community Reinvestment Act credit in the process.

"Forward-thinking, technology-driven CDFIs are sort of changing the way that banks could conceivably serve their customers, retain their customers and get CRA credit all at the same time," Cohen said.

The Association for Enterprise Opportunity, a trade group for microenterprise loan funds, developed a platform it calls "myWay to Credit," where banks can refer loan applicants to a marketplace of community lenders that include Excelsior.

Cohen said Excelsior is also working with the nonprofit Community Reinvestment Fund, which operates the online lending platform Connect2Capital.

"We're playing in these different sandboxes," he said.

He sees CDFIs as being in a movement to reinvent themselves. They are using technology to create more integration with each other and with banks than was ever possible before.

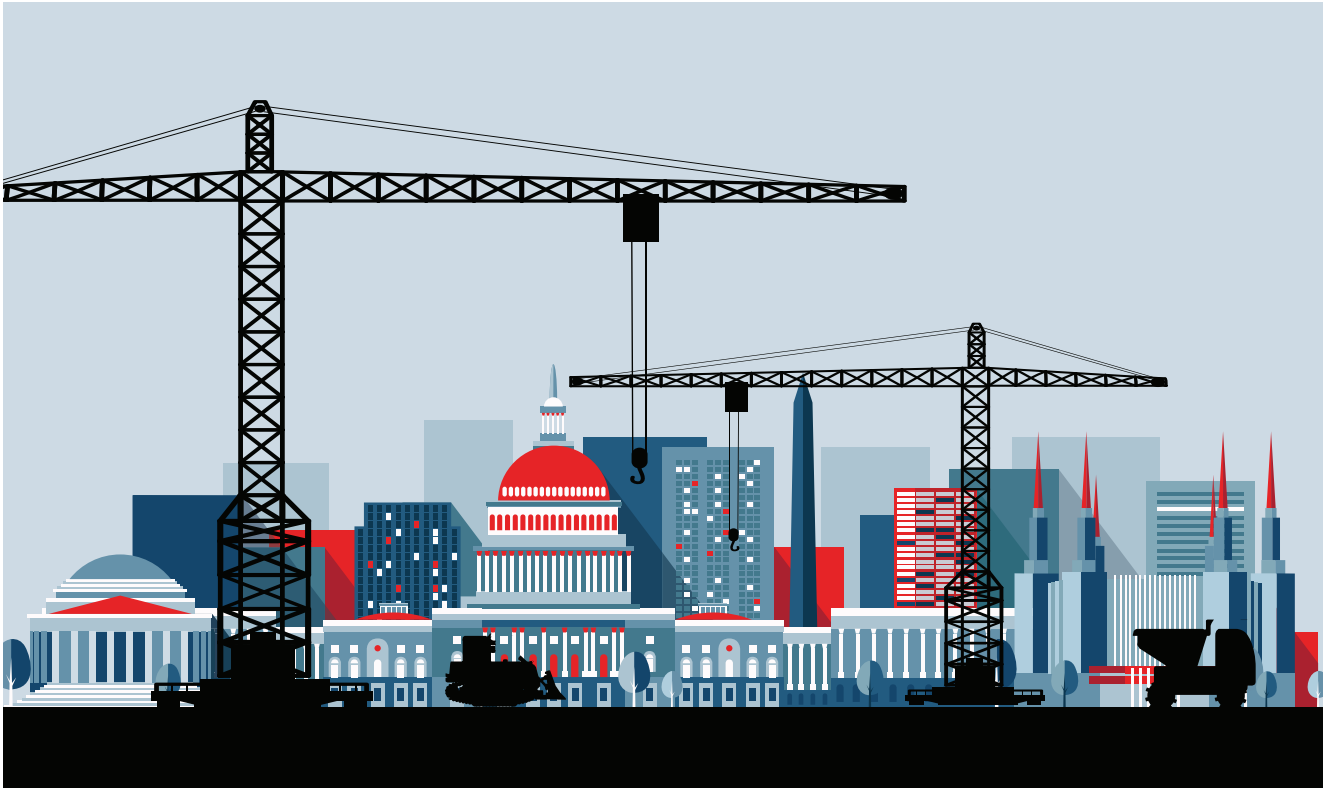
"There are all these efforts now for CDFIs to join together to be a solution for banks to help keep those customers at the bank and not go to the online lenders," Cohen said.

He expects these initiatives to grow and create even more lending opportunities. And he is excited to see how things evolve.

"It could transform the way that small-business lending is financed," he said. □

Briefings

PUBLIC BANKING | SMALL BUSINESS | CONSUMER LENDING



Public Banking Was One Winner in 2017 Elections

Advocates of state-owned banks have a champion in New Jersey

By Laura Alix

WITH THE ELECTION OF DEMOCRAT Phil Murphy as its next governor, New Jersey moved closer to becoming the second state in the country to establish a state-run, taxpayer-owned bank.

Murphy, a former Wall Street investment banker, is among a growing number of progressives who support the creation of more public banks to help fund infrastructure projects and stimulate economic development. Though efforts to create public banks in other states

have failed in recent years, Murphy's resounding defeat of New Jersey's lieutenant governor in the fall election – in a state where the legislature is already controlled by Democrats – is being seen as a much-needed boost for the broader public-bank movement.

The bank Murphy proposes would be modeled after the Bank of North Dakota, the only public bank operating in the United States. Under his plan, tax and fee revenue the state collects would be deposited in the bank and then used for a variety of purposes, from providing low-cost loans to small businesses and college students to funding community development in areas that are underserved by mainstream banks. A public bank also would provide an alternative

ADDBESTOCK

to “costly Wall Street bond markets” for cities looking to fund infrastructure projects, according to Murphy’s campaign website.

Murphy’s proposal, as well as similar efforts in other states, face myriad hurdles, the biggest being stiff opposition from the banking industry.

The New Jersey Bankers Association is concerned that many small banks would lose municipal deposits that they use to lend in their communities. Michael Affuso, the trade group’s director of government relations, said that more 100 banks in the state are licensed to accept municipal deposits.

Affuso also drew a sharp contrast between New Jersey and American Samoa, which is currently awaiting regulatory approval for its own state-backed bank. American Samoa is without a bank, he said, but New Jersey has no dearth of options. “It’s not that we’re against competition, but we’re against government competition,” he said.

Murphy has said that a public bank would complement, not compete with, local banks and credit unions. His gripe is with large out-of-state banks; he cited as an example one unnamed bank that had more than \$1 billion of public deposits last year but made only three loans in the state through the federal government’s small-business lending program.

Murphy’s victory is one of several recent developments that have given hope to advocates of public banks. California State Treasurer John Chiang recently proposed a feasibility study of a public bank as one option for providing the state’s burgeoning marijuana industry with banking options. State officials there are concerned that the industry’s reliance on cash will make it a magnet for violent crime and are brainstorming solutions.

The plight of marijuana-related businesses also motivated the Los Angeles city council to green-light its own feasibility study on a public bank. Serious efforts to study the issue are underway in Santa Fe, Seattle and Oakland as well.

This Is ‘the Big One’

The timing of an SBA rule change could not be better

LENDERS EXPECT A RULE CHANGE TO boost already surging originations in the Small Business Administration’s flagship 7(a) program.

Effective Jan. 1, the SBA will slash the equity required for most change-in-ownership loans to 10% from 25%, a move that should make financing for acquisitions more accessible. The change is part of a broader overhaul of the standard operating procedure, or SOP, that governs 7(a) and 504, the SBA’s largest lending programs.

While the rewrite has dozens of modifications meant to improve the SOP, the lower equity requirement “is the big one,” said Gregory Caruso, a partner at Harvest Business Advisors in Princeton, N.J.

Caruso said the change would have an immediate impact at Harvest, which provides loan valuation and brokerage services. “I have a loan right now that would be difficult to close with a 25% equity requirement, but it will go very well at 20%,” he said.

Several banks, including Live Oak Bancshares in Wilmington, N.C., have been trying to make more change-in-ownership loans. The SBA’s modification covers deals involving intangible assets in excess of \$500,000.

Even with the current, higher equity requirement, the 7(a) program has grown in popularity. Overall 7(a) volume has set records for three straight years, reaching \$25.8 billion in fiscal 2017.

An easing on equity standards for change-in-control loans is likely to push the numbers even higher because it meshes almost perfectly with forces that are currently driving the market, said Tom Pretty, head of SBA lending at the \$285.4 billion-asset TD Bank.

The new requirement is “a powerful

change,” Pretty said. “The baby boomers are starting to reach their retirement years, so we’re seeing a lot of entrepreneurs who started successful companies looking for transition plans.”

A recent survey of more than 300 small business owners by TD Bank found that nearly a third sought an SBA loan to pay for an expansion, an acquisition or partner buyout. — *John Reosti*

National Aspirations

PNC plans digital lending initiative and new branches

PNC FINANCIAL SERVICES GROUP plans to introduce a consumer lending product that it will market through both its mobile wallet and in new branches.

The \$375 billion-asset Pittsburgh company intends for the new loan product to be available nationwide starting sometime in 2018, Chairman and Chief Executive Bill Demchak said. It has not attempted to operate a national consumer lending platform before.

PNC will open branches in select new markets, including Minneapolis, Dallas and Kansas City, as part of the rollout of the national digital retail loan product. The new branches will be located in areas “where we have no presence in retail today,” but where PNC has expanded its commercial-and-industrial lending, Demchak said.

“We’re working right now to figure out how to activate that through marketing,” he said. “It’s different than traditional marketing, but we think it, through time, is a much more attractive way to gather clients, grow deposits, and augment what we’re doing on a national basis in C&I with our retail footprint.”

Demchak disclosed the plans at an investor conference hosted by Goldman Sachs in early December, but he did not offer additional specifics. — *Andy Peters*

BankTechnology



A Mobile Banking Startup Skips the FDIC Insurance

Jiko's plan is to invest customer deposits in short-term Treasury bills

By Kevin Wack

FOR DECADES, RETAIL BANKING customers have taken comfort from the Federal Deposit Insurance Corp. guarantee on their savings.

Now a venture capital-backed startup hopes to use a different U.S. government guarantee to convince customers that they can collect a better return while their funds remain safe.

Jiko, of Oakland, Calif., plans to launch a transaction account in the first quarter of 2018. Customer funds will not

be insured by the FDIC; instead, they will be used to purchase short-term Treasury bills.

U.S. Treasuries are of course backed by the full faith and credit of the federal government. Though the bills that Jiko plans to buy will pay a fairly modest yield to depositors, those yields figure to be higher than what most banks are paying on checking and savings accounts.

"Treasuries are a wonderful instrument," said Jiko's chief executive, Stephanie Lintner. "They're an extremely safe instrument. They're yielding."

Customers will have the ability to choose from different durations of Treasury bills, ranging from a week or two up to a year or longer.

Longer-term bills pay higher yields

but carry more interest rate risk.

The current yield on a four-week Treasury bill is 1.27% and the yield on a one-year Treasury bill is 1.6%, according to the Treasury Department. By contrast, the average rate that banks and credit unions paid on retail savings and money market deposit accounts was 0.07% as of Sept. 30, according to a recent report by Fitch Ratings.

In addition to the yield that customers will collect, the company plans to pay cash rewards of at least 0.5% on all debit card purchases. Lintner predicted that the mobile phone-based account will appeal to consumers who do not currently earn rewards from a credit card – particularly younger, more tech-savvy adults.

The product will look and feel much like a mobile banking account, but without the FDIC's stamp of approval. "Will that appeal to everyone? We don't know," Lintner said. "We think it's an interesting product for a certain market."

Some observers expressed doubt that consumers will forgo the FDIC's long-established guarantee, and instead turn over their money over to a little-known startup. "To build up trust would appear to be a hard thing to do," said Mike Taiano, director of the financial institutions group at Fitch.

Lintner acknowledged the challenge, but he said that the one-year-old company plans to assuage those concerns by becoming a licensed financial institution. That means obtaining both a broker-dealer license and a bank charter, which the company plans to achieve by acquiring an existing bank, he said.

Another question is whether Jiko, which means "self" in Japanese, will be able to become profitable. For now, the company expects to collect revenue from the portion of debit card swipe fees that does not get passed along to its customers. Lintner said that in the future, Jiko could generate more revenue by charging customers a monthly fee of a few dollars. "There may be a fee. Ideally there is not," he said.

How to Herd 'Unicorns'

More banks hunt for fintech startups as customers

A COMMON FEATURE FOR MANY banks now is an innovation lab. A big part of that is an effort to woo potential fintech "unicorns" as banking clients.

"It's always been a competitive market and now it's becoming even more so," Bob Blee, the head of corporate finance for Silicon Valley Bank, said of marketing efforts aimed at startups with high estimated valuations.

Rapid growth and ready venture capital funding has resulted in many more tech companies needing banking services than in the past.

In 2017's second quarter alone, venture capital flowing to fintech startups totaled \$1.7 billion, over half of it to those based on the West Coast, according to KPMG.

The same KPMG study recorded \$184 million in first-time financing, a record.

Banks increasingly see these young firms backed with sudden large infusions of VC money as desirable commercial clients with high growth potential.

"The market is so much bigger than it used to be; it's not just the hard-core technology and semiconductor companies," Blee said. "Most industries are undergoing disruption by new innovators in the market."

SVB, of Santa Clara, Calif., has long been known for its niche of banking innovative technology companies.

But others are ramping up their efforts in this sector, Bank of the West among them. The San Francisco bank, a subsidiary of BNP Paribas, recently hired former Bank of America and Deutsche Bank executive Andreas Bubenzer-Paim to head up the technology division of its commercial banking team.

"We are open to any company in the technology space, and with so many sub-

verticals, there's a lot of opportunity," Bubenzer-Paim said.

In general, banks have been improving their tech offerings for commercial clients over the past year or so. But serving technology companies is different than banking typical corporate clients or small businesses, and their needs go beyond the usual accounts and loans.

It goes without saying they want digital services – they are unlikely to want to deal with much paper or have to stand in a teller line.

"They're very discerning buyers of banking products," Blee said. "They expect cutting-edge services that are simple, secure and intuitive."

But more than digital services, they're really looking for their bank to play much more of an advisory role. "Often they scale at a very rapid rate," Blee said. "They want their bank to give them the right things at the right time. They want to know: When should I hire a full-time controller? At what point do I need to bring on a treasurer?"

That aspect is crucial since many tech startups are more focused on innovating, and not as much on the daily financial minutiae of running a business, said Patricia Hines, a senior analyst in Celent's banking group.

"The VC money some of these startups get puts them in a very unique position," she said. "If somebody just got \$12 million, they might need advice on how to invest that money in their business. They rarely have a financial staff until they get to a certain size, so it provides a nice opportunity for banks to be a trusted adviser to them."

Many banks are looking at how they can partner with or acquire fintech companies so they can access some of the latest digital financial innovations, and being a good bank to a tech client means they might be more inclined to work with that bank in the future, Hines said.

"It's kind of that halo effect," she said. "They think, 'This is the bank that cares about me.'"

– Bryan Yurcan



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**HOW NEW DEVELOPMENTS
ON MANY FRONTS ARE GOING
TO AFFECT YOUR BUSINESS
IN THE COMING YEAR AND
BEYOND – AND WHAT
YOU CAN DO TO PREPARE**

Rethink commercial real estate

E-commerce is wreaking havoc on brick-and-mortar retail sales, and the declining foot traffic is hurting many shopping malls, strip centers and Main Streets across the country. The rise in empty storefronts is understandably troubling for commercial real estate owners and the banks that lend to them.

But the great retail shakeout is presenting some new and interesting opportunities for commercial real estate lenders.

One is in financing the conversion of all that vacant retail space into new uses – restaurants, health clubs, medical facilities, community colleges, movie theaters and office space. Ford Motor Co., for example, recently moved nearly 2,000 employees to an abandoned Lord & Taylor store that had once anchored a suburban Detroit shopping mall. A six-store strip center outside of Columbus, Ohio, was recently acquired by a nonprofit ministry that converted the space into a health clinic and food pantry, in a deal financed by Heartland Bank in nearby Gahanna.

Norm Nichols, an executive vice president at the \$137 billion-asset KeyCorp in Cleveland, said that with the increase in vacant retail space, it is crucial for banks to foster relationships with developers who have experience in repurposing commercial properties that have become obsolete.

“Retail going forward is going to be less about new development and more about reimagining existing square footage,” said Nichols, the national manager for real estate project finance at Key. “We are actively looking for clients who have proven track records of being able to reinvent space.”

Another opportunity is financing the acquisition or construction of industrial warehouses and distribution centers. While the surge in e-commerce sales – expected to top \$450 billion in 2017 and reach close to \$700 billion by 2022 – has been a downer for retail real estate, it has been an absolute boon to industrial real estate.

Simply put, the likes of Amazon, Zappos and W.B. Mason need massive amounts of space to store their goods, and they want properties to be very close to major population centers



so they can get goods to customers within hours, not days.

“If you’re a bank and you want a new business opportunity, you better focus on anything that’s industrial or warehouse, and you better have lenders who understand the business,” said Peter Minshall, the managing partner at Washington Capitol Partners and longtime real estate investor in the Washington and Baltimore areas.

The trends are compelling. According to the commercial real estate firm CBRE, warehouse and industrial properties have seen positive net absorption – that is more space being leased than vacated – in 29 consecutive quarters, the longest such streak in more than 20 years. With demand soaring, warehouse vacancies are at near-record lows, rents are rising and building in the sector is booming.

In the Atlanta area, some 17 million square feet of new industrial space is currently under construction and in California’s Inland Empire, where the vacancy rate is a scant 1.3%, nearly 28 million square feet is being built, according to CBRE.

Industrial is not always an easy space for banks to play in, however.

Bo Cashman, a Baltimore-based senior vice president at CBRE, said that institutional buyers are so hungry for indus-

trial properties and are so flush with cash that they don't even need bank financing to acquire them.

On the construction side, the biggest warehouse user of all, Amazon, is building facilities that are so big and have such specific needs that only the largest banks and investment banks can participate in the financing – if Amazon needs financing at all.

“We have no shot at banking Amazon,” said Scott McComb, the chairman, president and chief executive of the \$884 million-asset Heartland Bank.

Still, there are opportunities for smaller banks that have the expertise and relationships in industrial real estate and are willing to take some measure of risk.

Thanks to a longstanding relationship, Minshall in 2014 was able to obtain a loan from a Maryland community bank to acquire a warehouse property outside of Baltimore that had been mostly vacant for several years. That facility, with more than 200,000 square feet, is now fully leased to W.B. Mason, an office-supplies dealer.

And while most of the big players in e-commerce want state-of-the-art facilities, McComb said that demand for older industrial properties is increasing as well, presenting opportunities for community banks like his.

“If you're a bank and you want a new business opportunity, you better focus on anything that's industrial or warehouse,” says real estate investor Peter Minshall.

Heartland, for example, has several clients in the micro-brewing business that have taken over older industrial space, McComb said.

Whether its older properties or new construction, opportunities abound in industrial real estate and more banks want in.

Nichols said that while KeyCorp has financed some deals involving warehouse and distribution facilities, it intends to allocate even more resources to the sector over the next several years.

“We are in the industrial space, but we would like to be in it even more,” he said. “The fundamentals are likely to remain very healthy.”

—Alan Kline

Tap into behavioral economics for better customer insight

When a major international bank was looking to improve the response rates for its credit card mailers in 2017, rather than changing the graphics or upgrading the paper stock, it turned to a firm that could offer guidance on how consumers make decisions.

It was trying to tap into the insights of behavioral economics, a discipline that uses psychological observations about human behavior to analyze and predict how people will act. And the use of such tactics is on the rise by bank and fintechs alike.

One major selling point in the bank's initial mailers was that the customers had been “pre-approved,” said Wei Ke, a managing partner at Simon Kucher & Partners, the global strategy and marketing consultancy that worked on the assignment.

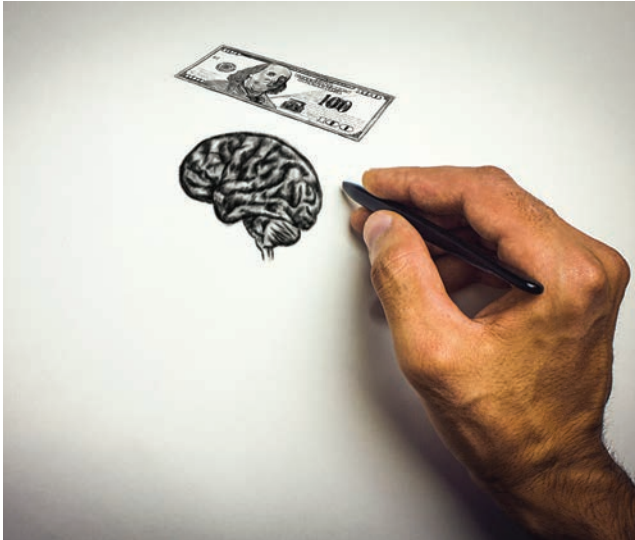
But terms like “pre-approved” appear on so much mail from financial services companies that it has ceased to have any real meaning to consumers, Ke said.

It's an issue that any behavioral economist would recognize. People make the vast majority of decisions on any given day instantly, using shortcuts known as “heuristics” – mental rules of thumb that prevent getting bogged down by constant indecision. Learning to ignore “pre-approved” offers is simply a heuristic that millions of financial services customers have found useful in sorting through each day's pile of mail.

“People see the word ‘pre-approved’ and get tuned out,” Ke said. “This is just another piece of junk mail.”

But there are ways to reinforce the benefit of what is being offered, and thus spark interest. “We found that, if you do a bit of research and get into the meaning of pre-approval in the minds of the customers, there are a couple of things that come out. Pre-approval means there is a time-saving element. There's the benefit of the certainty. Customers like certainty.”

Using customer surveys, Ke's firm developed a short list of the benefits of pre-approval, and then redesigned the offer letter. “We used checkboxes and a very simple table that lists the three or four benefits that bubble to the top, and compare and contrast that with a normal credit offer.”



By calling consumers' attention to the elements of the offer that they would likely see as valuable, the new mailers generated a response rate 40% higher than the previous version had a year earlier.

The concept of behavioral economics is not new. Car salesmen and advertising experts have long understood the power of an individual's unconscious biases, insecurities, and occasional irrationality to influence even major decisions. In the 1960s and '70s, it began to emerge as a field of serious study. Since then, experts in the field have collected two Nobel Prizes in economic sciences, the most recent going to Richard Thaler in 2017.

The win has fired up momentum on the topic in the financial services sector, though it had been gaining prominence even before.

From fintech startups to large banks like USAA, BBVA and CIBC, detailed analysis of consumer behavior is becoming increasingly important to how they see their future customer relationships evolving, said Aurelie L'Hostis, a London-based analyst with Forrester Research.

And the aim isn't just to make consumers more likely to act on a credit card offer or to open a new savings account. The idea is to use insights gained from observing a customer's habits to provide them with "actionable recommendations based on a real understanding of their economic position."

Where the trend was recently to focus on so-called "gamification" of the customer's relationship with a financial institution, L'Hostis said that cutting-edge institutions are moving

beyond that toward practices that have shown to be more effective at influencing customer behavior over the long term.

One of the world's foremost experts in the field, Duke University professor Dan Ariely, is also the chief behavioral economist for Qapital, a Swedish fintech that developed an app for mobile phones to help people develop strategies to increase savings.

L'Hostis said this is an area where banks can improve. Customers are more likely to develop and stick to a savings strategy if banks are able to collect data about their financial position and then show them how they compare with similarly situated peers. And customers who see themselves successfully moving toward a stronger financial position are going to value their relationship with the institution that helped them get there.

But before banks begin planning to use the insights of behavioral economics to pull in more customers and increase the engagement of those they already have, they might want to pause for some more analysis, warned Christopher Skinner, managing partner at MakeBuzz, a software firm that develops customer relationship management solutions.

Particularly when it comes to applying new technology to predicting and directing customer behavior, he said, there's a tendency "to put the technology cart before the psychology horse."

A lot of data about customer behavior is easy to collect, Skinner said, but "cookie data, click data, and past sales data" may not be as valuable as bankers think.

"Behaviors are temporary states," he said. "Today I woke up happy. Tomorrow I wake up mad. How do you design marketing around that? How do you design anything around that?"

He favors data that is "harder to acquire but more reliable and more connected to profitability." This type of data, like personality traits, can help a bank cultivate a long-term, mutually beneficial relationship.

But customers should be clear about that being the ultimate goal, because if there is any fuzziness, other heuristics could kick in, like those that give them the sense they are being manipulated or taken advantage of.

"Humans have a way of detecting these things," Skinner said. If a customer interaction "comes across as off-putting, and you're dealing with something as sensitive as a loan, it can be a very bad experience. You have to apply these things cautiously."

— Rob Garver

Turn financial wellness perks into a business



Personal financial wellness programs are on the rise and banks are no exception in offering them to employees. But many could be overlooking a natural next step.

Could banks turn the perks developed for their employees into a new type of business service?

For at least two banks so far, the answer is yes.

A financial wellness program popular internally at SunTrust Banks is proving to be a hit with its corporate customers.

For three years now, the program, called Momentum onUp, has been helping SunTrust employees achieve their financial goals through a combination of on-site coaching sessions and online tools.

Last January, SunTrust extended the program to corporate customers, as a benefit they could offer to their own employees. To date, 68 companies have enrolled in the program and, of those, 50 have launched it.

The \$84.3 billion-asset First Republic took a similar approach with Gradifi. Gradifi administers student debt assistance as an employee benefit, an increasingly popular perk for cultivating loyalty with notoriously fickle (and debt-laden)

millennial workers.

After trying out the program with its own employees, First Republic bought the startup in late 2016 and began offering the service to its corporate customers.

Banks' interest in personal financial wellness makes sense. The shift in consumer behavior, away from physical branches and toward self-serve digital channels, has pushed banks to take a more advisory role with customers.

At the same time, increased individual responsibility for health care expenses and retirement planning means that Americans' financial lives are more complex than ever, said Mark Schwanhauser, director of digital banking with Javelin Strategy and Research.

Against this backdrop, banks are uniquely qualified to fill a role as financial coaches, helping their own employees, their customers and their corporate customers' employees to better navigate their own financial lives.

It also makes sense that, when thinking about how to engage customers, banks should be able to apply what they've learned by offering these services to their own employees.

"The tools that a bank develops for its employees may be the kinds of tools you can develop for your customers, or vice versa," Schwanhauser said. "What you're doing inside your HR plan probably has some relevance to your consumers because it's all about trying to use a digital channel to create a sense of 'What do I do next?'"

Though Gradifi is expected to lose money for at least a couple of years, First Republic wants to invest in scaling it up, Chairman and Chief Executive James Herbert said in the third-quarter earnings call.

The thinking is that it can lure high-earning millennials to First Republic, both as employees and as customers.

At the \$208 billion-asset SunTrust in Atlanta, acquisition and retention – not profit – are the end goals for now. SunTrust charges participating companies only for the cost of delivering the program, with no premium on top of that.

Like First Republic, SunTrust came by its financial wellness program through an acquisition.

Brian Ford is a financial well-being executive at SunTrust. But before he joined, Ford was the founder of 8 Pillars, where he developed personal financial wellness programs for workplaces.

SunTrust worked with Ford's company to develop a financial wellness program for its employees and ultimately liked the results so much it bought 8 Pillars in September 2015 and

hired Ford to run its internal program and now its external one as well.

“Speaking broadly, it’s been fascinating to watch this workplace financial wellness space evolve because 10 years ago, the term ‘workplace financial wellness’ really didn’t exist,” said Ford. “It was slow at first, but it’s really gained steam in the last five years. It’s pretty difficult to become a best place to work or an employer of choice without having a fairly robust workplace financial wellness program.”

The details of the SunTrust program vary according to a company’s particular needs and the needs of its employees. A program tailored for Waffle House employees, who don’t sit at a desk all day, might take place entirely online, while a smaller company with one central location might choose to offer it on site.

Momentum onUp’s curriculum revolves around eight core concepts, or pillars. These are designed to help people organize their financial lives and establish priorities. Creating an emergency fund is the first step, but the course also covers topics like improving credit scores and investing.

Just listening to the videos and doing the exercises would take a person two or three hours. But following through and actually doing everything the program asks of participants could take one to six months. SunTrust said it encourages users to think of the program as a resource they can use over several years.

More than 16,000 of SunTrust’s 24,000 employees have participated in its financial wellness program, and anonymous survey results have been encouraging, Ford said.

The participants reported greater progress toward their financial goals and less financial stress, he said. Importantly, they reported greater confidence in their careers at SunTrust and said they felt the bank cared about them.

SunTrust also has experienced significantly lower turnover among employees who have gone through the program compared with those who haven’t.

In offering this program to corporate customers, Ford said that SunTrust wants to give those companies a similar win. In the end, it is also a win for the bank that introduced the company to the program.

The gratitude that accrues to employers can be substantial, Ford said.

“We’ve had employees tell us that we’ve saved their marriage,” he said. “People have said this is the best class they’ve ever taken.”

— Laura Alix

Use AI to amp up recruiting



Banks are in a war for talent, not just with each other, but also with the likes of tech firms that are seen as cooler places to work. Who wants to wear a suit every day when you can wear jeans and a T-shirt?

As the economy improves, this competition for new hires across all job categories – whether entry-level or experienced – will only intensify.

So some are turning to artificial intelligence to help broaden their applicant pools and identify the candidates who display the passion, the aptitude and the leadership skills they are looking for.

Jim Edrington, chief member engagement officer at the American Bankers Association, attributes the emerging trend to necessity. “Banks can’t find the people they need anymore just by looking at graduates from the top schools and at GPA and test scores,” he said.

One of the pioneers in using AI for recruiting is Citigroup, which is piloting this type of approach in its corporate and investment banking unit. The unit has 15,000 applicants for its 2018 summer intern program – all students in undergraduate or MBA programs – and wants to do a better job of identifying those who could be a long-term fit.

“We’re looking at using big data and AI to enhance our ability to hire people who are more likely to be retained by the bank, and to stay longer than they would traditionally stay,” said Bill Fisse, a Citi managing director for global campus re-

cruiting and program management strategy.

Citi is conducting its pilot with a four-year-old Seattle start-up called Koru, which calls itself a “predictive hiring” firm.

Kristen Hamilton, co-founder and chief executive of Koru, said the company’s process is to develop a set of 450 data points for job applicants.

Each one takes a detailed, customized “fit test” that shows how they rate in seven categories that Koru claims are predictive of workplace performance – grit, rigor, impact, teamwork, curiosity, ownership and polish. A client bank – Koru has several of varying sizes – would decide what weighting to put on each of those categories.

At this point, Citibank is just using those test results in its hiring process for next summer’s intern pool. But it will then be following the lucky 200 it selects, particularly those who end up working for the bank as regular employees, to help it develop a predictive model – called a “fingerprint” – for achieving even better results with future hires.

“We’ll see how people that we hire using this system are tracking,” said Courtney Storz, who heads global campus recruitment and program management for Citi. “There will be a huge data set to analyze and study, and as we follow hiring and performance cycles, we’ll be able to look at how predictive the fit score is and effectively refine the fingerprint over time.”

Hamilton said that a big bank like Citi is ideal for Koru’s process because the number of applicants and hires provides a sizable data set. However, the model can be scaled down to work for companies hiring as few as 25 people, she said. Where the number of job vacancies to be filled is small, a “fingerprint” for future hires can be developed by testing existing employees instead of just new hires, she added.

She declined to discuss the cost, other than to say that a smaller institution might pay in the range of \$10,000 to \$30,000 – “less than the cost of making one bad hire.”

Koru is just one of a growing group of companies offering predictive hiring based on data analytics of one kind or another. Others include Knack, Pymetrics, McFrank & Williams and Talent Analytics.

Haig Nalbantian, senior partner at Mercer and co-lead of Mercer’s Workforce Sciences Institute, cautioned that algorithm-based predictive hiring poses a risk. “If not used cautiously, you can end up hiring a bunch of clones,” he said.

But, he added, “the trend is here and you’re only going to see more of it,” especially in industries like banking with a lot of customer-facing employees.

– Dave Lindorff

Be a driver in autonomous vehicles, not a passenger



It may not yet be apparent, but we are on the cusp of a seismic change in our relationship with the automobile.

This change will have significant implications for stakeholders in the banking and payments landscape. The Internet of Things, artificial intelligence and blockchain are already quietly making their way into the dashboard and under the hood. Within a decade, such technology is set to radically transform driving from a singular activity in moving from point A to point B, to an opportunity to safely multitask and even to completely disassociate from the road itself.

Going the distance

The average American commute took 26.4 minutes in 2015, creeping up 24 seconds from the previous year, according to the U.S. Census Bureau’s most recent American Community Survey.

For those commuting by car, the activity of driving requires active concentration and multitasking is limited to little more than changing the dial on the radio.

However, the automotive industry sees a significant oppor-

tunity in transforming drivers into passengers and opening up a plethora of other actions that they can engage in on the go.

The National Highway Traffic Safety Administration defines six levels of car automation, from Level 0, where a human controls all the critical driving functions, to Level 5, where the car drives itself from departure to destination without human intervention.

Research from Loup Ventures estimates that 98,000 fully autonomous vehicles (Levels 4 and 5) will enter the market in 2020, which is when the transition to self-driving will start to take shape.

Beginning in 2028 Loup forecasts the industry will see an influx in demand for Level 4 and 5 automobiles and will go from shipping 98,000 fully autonomous vehicles in 2020 to 96.3 million in 2040, representing a 41.2% compound annual growth rate over that time frame.

The car as storefront

While financial institutions may assume that they have some time to get their heads around this new automotive paradigm, now is the time to act. Even without autonomous cars taking over the roads today, in-car technology is already adding the ability to pay for tolls, parking, gas and drive-through orders, with voice assistants enabling drivers to multitask without taking their eyes off the road.

While many of these functions can be enabled using mobile phones and travel apps such as Waze, the smartphone-tethered experience is not necessarily driver friendly. Automotive manufacturers are working to upgrade the experience, to one that is safer and more seamless.

For example, at the CES show in Las Vegas last January, Visa announced a proof of concept for in-car payments in conjunction with Honda, demonstrating fuel purchases (with Gilbarco Veeder-Root gas pumps) and parking payments (with IPS Group smart parking meters). Once the car is parked next to a pump or meter, drivers are notified that they can pay from their car, facilitating the transaction via a screen on the car dash.

Similar types of technology have already launched commercially – in February, Jaguar announced a U.K. initiative with Shell gas stations to enable in-car payments. The feature requires installation of the Shell app onto Jaguar's in-car touchscreen display. Once installed, payments can be made via PayPal, Apple Pay or Android Pay. Of course, the driver still needs to leave the car to pump gas.

Where banks take the wheel

For issuing banks, this is just one more scenario where top-of-wallet dynamics have no relevance as the card on file is invariably the default. In the short term, issuers need to be agnostic and open to all variants of the digital wallet to ensure that they fit whatever preference consumers have.

“The play for banks is to enable their payment cards in every available wallet,” said Thad Peterson, senior analyst at Aite Group. “It’s going to be a card-on-file game, but the delivery vehicle will be some form of wallet, whether proprietary such as a General Motors wallet or generic such as Apple Pay.”

Automakers haven't included expenses like tolls and parking in their subscription models so far, but “it certainly is something companies of many types could explore,” says Dominic Venturo.

Current generation in-car payments don't necessarily disintermediate traditional payment players from the experience. However, some recent developments may be more disruptive. A May 2017 report by Celent titled “Payments and the Internet of Things” describes the ultimate stage of IoT commerce as “semi-autonomous economic agents” that are capable of acting independently to optimize their own, their owners', and their clients' objectives. In an automotive scenario, this could be self-driving cars using advanced AI to independently transact on the behalf of the owner – fulfilling tasks such as negotiating with toll road services for faster passage, purchasing gas or electricity, paying for servicing and so on.

Banks might need new roads for this traffic

This presents an opportunity for financial institutions to issue payment accounts directly to vehicles. However, the current infrastructure for cards might not be capable of supporting what is likely to be a constant stream of micropayments. A more appropriate mechanism may be blockchain technology, which was originally designed to support bitcoin payments.

While semi-autonomous agents sound like science fiction, key stakeholders in payments, technology and the automo-

tive industry are already making this a reality. UBS, ZF Group (a German car parts maker) and the technology giant IBM announced plans in September to jointly provide an open automotive transaction platform for mobility services called “Car eWallet,” based on IBM Blockchain technology.

This makes it possible to synchronize the information of each participant in the network in a reliable and unchangeable data record. At the same time, it ensures that users have access to only the information that they are permitted to see and use, making near real-time transactions possible without a trusted third party. The platform has the potential to radically change e-commerce between manufacturers, suppliers, service providers and customers, according to the companies behind it.

What may be reassuring about this initiative is that a major financial institution is still part of the value chain and it can be expected that car owners will continue to entrust their transactions to entities that they are familiar with. And financial institutions, while not vociferously plugging their in-car initiatives, are known to be working behind the scenes.

“We’ve certainly been working on pilots within the automobile space to enable connected car type payments,” said Dominic Venturo, chief innovation officer at U.S. Bank. “These haven’t been publicized as they are still in the lab stage, and the details are still confidential.”

However, the threat of disintermediation for banks is legitimate – most car manufacturers have their own lending arm and extending their relationship for payments not just at the point of vehicle purchase but throughout the entire life of the vehicle could present an attractive revenue stream.

“There are auto manufacturers already moving to subscription models where most of the operating cost is covered under one payment,” said Venturo. “While we haven’t seen any yet that include the variable expenses like tolls and parking, it certainly is something companies of many types could explore.”

Banks and payment providers need to remain relevant as autonomous vehicles take over the roads, and should proactively consider the many opportunities that in-car payments offer in areas such as cross selling and marketing, in increased data on customer behavior and in new innovations such as accounts for semi-autonomous agents.

Start with stepping up awareness of developments in the auto sector and follow up with action.

– Nick Holland

Beware the hazards of virtue signaling



You may have spotted a trend in the marketing campaigns of financial institutions in recent years. Advertisers seem just as eager to position themselves as being virtuous as they do to tout the benefits of their products. They are do-gooders who aim to help not just their customers, but the broader community.

“We’ll give \$150 to Stand Up to Cancer and \$150 to you when you open a new checking account,” promises a Fifth Third Bank commercial that is representative of the genre.

“Our mission is to make offshore wind one of the principal new sources of energy,” a Citigroup banker declares in another ad.

The American public’s view of the financial sector went into free fall after the Great Recession, and this sort of image burnishing may help with those lingering negative perceptions. It’s an approach being tried by banks and financial technology startups alike, as they seek to improve

their reputations with a variety of stakeholders.

Consumers are an important target, but so are current and prospective employees.

“Imagine telling your 22-year-old, fresh-out-of-Stanford, computer science majors, ‘We’re going to start an amazing, disruptive fintech company, and it’s going to make a ton of money charging late fees,’ ” Max Levchin, chief executive of Affirm, the San Francisco-based online lender, said at an industry conference in October. “Unless you are willing to provide an idealistic narrative, it’s actually very hard to disrupt Wall Street.”

But there are risks for companies that embrace this sort of virtue signaling, particularly if their corporate cultures do not match the public stories they have been telling about themselves.

“In some cases, the rhetoric is stronger than the reality,” warned Stephen Hahn-Griffiths, executive partner at the Reputation Institute.

One example is Wells Fargo. The San Francisco banking giant’s onetime tagline – “Together we’ll go far” – implied that its interests were aligned with those of its customers.

Then came a series of revelations about widespread misconduct at the \$1.9 trillion-asset company. In the most high-profile infraction, as many as 3.5 million accounts were suspected of being opened without customer authorization, as employees tried to hit aggressive sales targets.

In another instance, Wells agreed to refund fees to mortgage customers who were improperly charged to extend the period of time in which they had locked in a specific interest rate. And in a third case, the company pledged to compensate customers who were overcharged for auto insurance.

In each of these scandals, Wells padded its own bottom line by dipping into its customers’ pockets. And the public noticed. New checking account openings tumbled in late 2016 and early 2017, after which point Wells stopped publicly reporting the data.

This past spring, Wells unveiled a new ad slogan, “Building Better Every Day,” which hinted at the company’s problems and could be read as a promise to improve.

“We betrayed your trust, and now it’s on us to earn it back,” Wells Chief Executive Tim Sloan said in a video message to customers.

Another lender that finds itself in a marketing bind is Social Finance, where brand-building efforts have been

complicated by the circumstances surrounding the recent ouster of CEO Mike Cagney.

Since its inception, SoFi has tried to convey that it doesn’t just offer its upwardly mobile customers – or members, as it calls them – a lower interest rate on their student loans. The company also helps borrowers find a new job and maybe even a date.

SoFi organizes happy hours, community dinners and speaker series, and getting customer buy-in depends on the premise that the San Francisco-based company is looking out for their interests.

“Community is critical to us to make the SoFi model work,” Cagney said in a 2015 interview.

Want to attract those 22-year-old, fresh-out-of-Stanford, computer science majors? Providing “an idealistic narrative” is important, says Max Levchin of Affirm.

But recent allegations of sexual harassment at SoFi could make that message a tougher sell, particularly among women. “It was a frat house,” one former employee told the New York Times.

In a Nov. 9 letter to SoFi shareholders, interim CEO Tom Hutton vowed to make internal changes. “The executive team and I have taken a hard look at SoFi’s culture since these allegations, and frankly we see a lot of room for improvement. We are launching a companywide initiative called ‘One SoFi’ to work with our entire team to define the culture and values we want to embrace,” Hutton wrote.

SoFi ultimately may have an easier time rehabbing its image than Wells Fargo. That is partly because the online lender’s scandal hasn’t resulted in harm to customers. And it is partly because the 6-year-old company didn’t have a well-established mass-market brand to tarnish.

Still, SoFi’s image as one of the hottest companies in fintech has taken a hit.

The lesson is one that the entire financial services industry would do well to heed. “I think to be authentic, you can’t just talk, you also have to walk,” Hahn-Griffiths said.

– Kevin Wack

Think of open source as the future

Banks, long committed to keeping customer data private and their own code proprietary, are now opening up to fintechs and third-party developers in new ways.

Open-source projects are underway at Deutsche Bank, which made code from its Autobahn commercial banking software publicly available this fall, and JPMorgan Chase, whose Quorum blockchain software is available in the open-source software repository GitHub.

As financial institutions experiment with new technologies, more are expected to adopt open-source software in place of commercial applications. Some may even explore open-source development themselves, as it offers access to a wider pool of developers who can not only work out bugs at no charge but write programs that will benefit bank customers.

The adoption of openness in all its forms is increasingly seen as a necessity in a digital world.

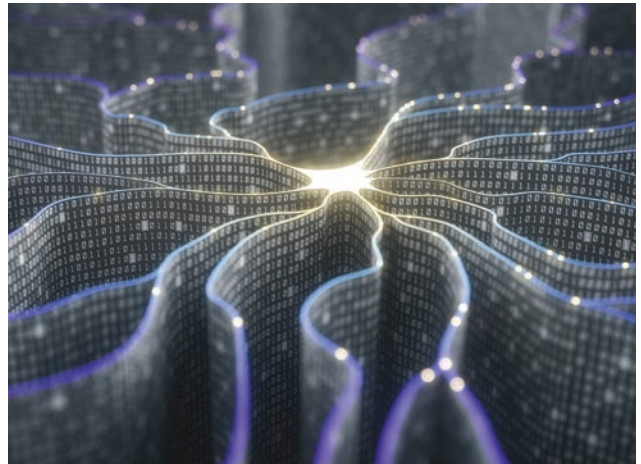
A global study by Accenture found that 99 of 100 payments executives at major banks said their bank intends to make large investments in open banking initiatives by 2020. Of those at North American banks, 63% believe that a move toward open banking is essential to compete with fintech startups and large technology firms, while 52% of all the executives surveyed said they would be forced to adopt open banking practices to keep up with other big banks, as a wave of digital transformation overtakes the industry as a whole.

Perhaps surprisingly, financial institutions are “viewing this opening up of the walls as an opportunity rather than a threat,” said Brett Goode, a managing director in the financial services practice at Accenture.

But something even more radical lies ahead.

This embrace of openness can – and, some experts say, should – go beyond peripheral tools and apps, to banks using open-source software for their core banking systems one day.

Tech providers can show the way, at least in part. While banks are still leery of open-source software, the tech industry has been relying on it for years. Open-source projects like Linux have succeeded by harnessing the creativity of lots of individuals across the globe.



“With Linux, people started writing code because they wanted to; they were not even paid to do this. It’s like a bunch of artists collecting outside a wall and starting to paint the wall because they want to show off their skills,” said Suresh Ramamurthi, chairman and chief technology officer of the tech-forward CBW Bank in Weir, Kan.

Linux continued to evolve through crowdsourcing, with others pointing out and resolving bugs in the code as they used the software. Instead of a single company having to pour money into research and development, followed by quality assurance, “you got the best of everything with open source,” Ramamurthi said. “You got the best guys who were motivated to write for the sake of writing, other guys who were using it for the sake of using it, and testing it in every possible crazy scenario that you can think of – and out comes a platform that you, as a large enterprise, can use.”

A gateway drug

Open APIs may be a gateway drug for banks to delve into open source. CBW Bank has a marketplace, YLabs.io, where developers can go to build banking apps using CBW’s APIs. More than 250 developers, including some from the largest U.S. banks, are using it, said Ramamurthi, who is an ex-Google engineer.

The next step, he said, will be the bank letting people publish their apps and algorithms in the marketplace for others to use. Some of those may be open source. “That allows us to bring open source into the bank” without taking undue risk, Ramamurthi said. “That’s the power of the sandbox.”

Other banks might find their own ways to ease into open source. They can’t rush the transition, especially when it comes

to replacing their core systems, because “core systems are big, complex beasts with many facets,” said Robert Sears, global head of product for new digital businesses at BBVA Compass.

Still, some elements that “you might think of as ‘core’” can be handled using open-source software, said Sears. He cited message processing (via Apache Kafka), data analysis (via TensorFlow) and even the many databases that surround the transaction-processing core.

Julien Courbe, a financial services advisory leader at PwC, said he knows of fintechs that have developed core systems based on open-source technology, though he declined to share specific names. “We haven’t seen these systems being widely deployed yet,” said Courbe. “However, these could be in the future very good deposit systems or core systems for a mobile-only bank.”

Even if traditional banks choose not to undertake the Herculean task of restructuring their systems, insiders say that in the next few years open source will become more prevalent in areas like mobile app development. “The open-source phenomenon allows you to reach vast numbers of people at zero entry cost with great products,” Ramamurthi said. “Banks have to start thinking about how banking itself can be open-sourced.”

The advantages of open source

The chief advantages of open-source software are standardization and security, said Markus Geiss, the former chief technology of Mifos, an open-source software project aimed at financial inclusion.

The most successful open-source projects are those that manage to attract a huge community of developers, and that means over time the software stands a good chance of becoming an industry standard, as Linux has.

Having so many eyes on the code – not only those of active developers but of outside parties as well – means that flaws are spotted and fixed. Transparency begets security.

“Everybody can take a look at the code and see what’s happening. So there’s some built-in trust already there,” Geiss said.

Alex Waters, a former bitcoin quality assurance engineer who has consulted for banks, said the enhanced scrutiny could help financial firms thwart cybercriminals. “Banks are the most targeted industry sector for hacking and phishing – more so than nation-states,” he said. “Generally speaking, open source will prove more secure for their banking activity.”

Though that is a controversial idea today, technology companies such as Facebook and Reddit “have open-sourced large

portions of their applications, and it has helped a great deal with their security,” said Waters. “When data systems are open to public review, there’s a higher bar of quality than what we’ve seen with closed systems. Closed systems tend to have significant attacks that go unnoticed for years, and that’s a problem.”

Open source also could solve the need banks have for faster, more agile systems. “Modern banking products need high up-time and low response time, both of which can be directly addressed using open source,” said Sears.

Used in the right places, open-source software can be developed more quickly and with better features and reliability than commercial software, he said.

Ramamurthi pointed out that Linux is already being used as an operating system by some banks, having been smuggled in under the guise of a trusted application from a vendor like Red Hat. “There’s already open-source software in banking, only banks don’t know it,” he said.

‘A new solution’

Out of the 20 or so banking conferences Waters has attended in the past three years, he said he can’t remember open source ever being a topic. But even if most banks have yet to acknowledge the value of this approach to software development, the open-source community has already begun to penetrate the banking industry.

Fineract is an open-source core banking system being developed at the Apache Software Foundation. Originally focused on microfinance when it was started at the Grameen Foundation 10 years ago, Fineract has since evolved to offer checking, savings, lending and a general-ledger component, as well as income reporting functions and Know Your Customer tools.

Having graduated from the Apache incubator in April 2017, Fineract is in use at about 100 financial institutions across 37 countries, its software serving the needs of more than 7 million people. The list includes banks, such as BTPN Syariah, a sharia-compliant subsidiary of BTPN, a retail bank in Indonesia.

“My end goal is Deutsche Bank is using it,” joked Geiss, a member of Fineract’s project management committee.

Geiss joined Fineract in 2014 as a volunteer. He was attracted to it because, he said, there are 2 billion unbanked adults in the world who need basic financial services. “My real goal for Fineract is to get all of those 2 billion people banked,” he said.

None of the Fineract adopters are in the United States, and Geiss said that a large retail bank in the West today would not be able to use Fineract as it is, largely due to regulations. In

less developed countries, which lack infrastructure, financial regulations are less daunting, he said. In Indonesia, Fineract is working with regulators to shape the law and the software.

Regulation also presents a barrier to open source in general. Swapping out a core system for open-source software would make U.S. regulators queasy, said Ramamurthi. “By definition, the deck is stacked against open-source core banking,” he said.

Geiss agreed, but perhaps because he lives overseas, he’s more optimistic about how the future might play out. “In five years, some of the big banks will use an open-source core banking system,” he predicted.

The main reason is that they feel “trapped” by their current core systems, unable to add features as quickly as they would like, he said. “They’ve now reached a point where this is not working anymore. They need a new solution.”

Mandate to change

Despite technical and regulatory obstacles and the financial industry’s traditional commitment to proprietary systems, banks that don’t embrace open source could be left behind.

Challenges are coming from unexpected directions. Proponents of bitcoin, which runs on open-source code, are “trying to open-source and decentralize banking,” Ramamurthi said.

In this new landscape, vendors that supply core banking systems might find it difficult to adopt a more open-source approach themselves. For open-source projects to work, they have to motivate people to write code, and coders want to work on the latest, most exciting technology, not put “a bunch of Band-Aids on something from 1990,” Ramamurthi said.

Asked how vendors will respond to the rise of open-source core banking, Geiss said, “Right now I don’t see any response. Seems a little bit like they’re simply ignoring it.”

He theorized that open source could put vendors out of business in the next decade. But pressed on the point, he said vendors also might enhance open-source core systems, build in specific functions, just as Red Hat has done with its enterprise Linux operating system, and thus offer technical support and system maintenance to big banks.

Falk Rieker, global head of SAP’s international banking unit, said he expects open source to evolve the way cloud technology did, with adoption by banks increasing over time.

But he said a hybrid approach, where open source complements enterprise standard software, is likeliest to emerge.

Asked whether major tech vendors would ever make their code open source, Rieker said, “Why not?” — *Brian Patrick Eha*

Respond as the tech giants upend banking

(They can do it without a charter)



There’s been a lot of noise over the past year around whether fintech firms — or, more seriously, Silicon Valley behemoths like Amazon and Google — are going to make a run at owning a bank.

The Office of the Comptroller of the Currency moved ahead on its plan to offer a charter for nonbank fintech firms, and then-acting Comptroller Keith Noreika suggested that any firm could theoretically apply, a break from his predecessor. Amazon and PayPal executives even had meetings with the OCC over the past year, though whether they discussed the charter was unclear.

Lost in all this was an inescapable fact: Big tech firms like Amazon don’t need a charter to disrupt the banking industry. Indeed, they are already changing it.

“This is a classic missing the forest for the trees, looking at the charters,” said Karen Shaw Petrou, managing partner of Federal Financial Analytics. “Who needs a charter? They can offer the structural equivalent without one.”

Amazon has done more than \$1 billion in small-business lending since it first started offering loans. In 2017, it launched Amazon Cash, which effectively allows it to take cash deposits from customers via ubiquitous convenience stores like

7-Eleven and Sheetz. Other tech firms, including Apple and Samsung, offer their own payment apps.

It's not clear what tech giants have in store next, but they will likely push the limits of traditional finance. It's not hard to imagine the Bank of Alexa, enabling customers to move money and pay bills just by shouting at the Amazon Echo in their living rooms.

The barbarians aren't at the gate anymore. They're inside the walls.

Some see a massive break looming in the banking business.

In a report issued in late 2017, McKinsey & Co. predicted a split between "manufacturers" of banking, the core business of financing and lending that is hard for tech firms to replace, versus "distributors," the origination and sales side of the business where outside competitors have an easier time entering the system.

If banks effectively end up as utilities to larger tech firms, they will lose out. McKinsey forecasts manufacturing will produce only 35% of profits in finance, a return on equity of 4.4%. Distribution, meanwhile, will produce 65% of profits, with a return on equity of 20%.

"As platform companies extend their tentacles into banking, it is the rich returns of the distribution business they are targeting," McKinsey concluded. "And in many cases, they are better positioned for distribution than banks are."

Most experts agree that banks still have three key advantages: the sheer ability to manufacture finance, which isn't easy for tech competitors; a mound of data on customers' financial activities; and customer trust.

"When it comes to customers' decisions about where to place their money, research shows that banks enjoy greater trust than tech companies," the McKinsey report said.

But tech companies are putting pressure on banks in all three areas. A recent survey by Bain & Co. put Amazon and PayPal nearly as high as banks in levels of customer trust.

Remember that theoretical Bank of Alexa? More than 25% of U.S. respondents in the Bain survey said they would consider using "voice-controlled assistants for their everyday banking." And Amazon dominates that market. On Cyber Monday 2017 – the largest single shopping day in the company's history – the biggest-selling item was the Echo Dot, its entry-level Alexa speaker. That's a lot of voice-controlled assistants already sitting in bank customers' homes.

Amazon, Google and Facebook are sitting on their own pile of data that includes everything from what customers already

own to what they secretly covet (via searches online). There's no doubt that tech companies are eager to find ways to exploit that information in the financial services arena.

Some analysts argue that banks have squandered their data advantage.

"Who owns the customer?" asked Petrou. "Who owns the data? Banks assume they do. They haven't capitalized on it."

So what can banks do in the shadow of Amazon and others' moves into their business?

"Who needs a charter? They can offer the structural equivalent without one," Karen Shaw Petrou says of the competitive threat posed by Amazon and Google.

For one, they can stop focusing on distracting fights about bank charters. Federal regulators are unlikely to grant one to a Silicon Valley firm in any case – and those firms don't need one to take away business from banks.

More important, banks must stay in the forefront of customers' minds. In consumer trust, they are still winning. And while that advantage is eroding, it's not gone yet. And for tougher credits, it may never fade.

"Small banks succeed because they are in their communities dealing with the tough credit issues that nobody else wants to solve," said Howard Headlee, the head of the Utah Bankers Association. "Amazon and Google aren't going to do that."

Banks also need to continue innovating. Customers want to go to tech firms only if they are offering something they can't get at their own bank.

Even McKinsey said banks are making strides there. Both JPMorgan Chase and Wells Fargo recently launched mobile-only banking apps with an emphasis on making it easier for customers to interact.

Through strategic partnerships and a focus on customer service, banks may not be out of the running yet – with or without Amazon or Google trying to enter the business.

"It is not too far-fetched to imagine a day when banks will offer a range of services, reach a vastly larger customer base, and succeed at their digital rivals' game," McKinsey said in the report.

– Rob Blackwell

See blockchain put peers back in P2P

The original premise of online peer-to-peer lending platforms was simple and democratic: a single mom from Kalamazoo, Mich., could post her story explaining why she needed \$5,000 to pay off her credit card, and a retired electrician in Illinois could read it, decide to fund her loan, and receive interest far exceeding what he could get on his savings account.

LendingClub and others that proffered this people-helping-people model quickly found they needed to make changes. They turned to large institutions to buy the loans in bulk.

Is it possible that blockchain or distributed ledger technology – a mechanism through which many parties share a record of transactions and supporting documents – could be used to revive the original idea of P2P lending?

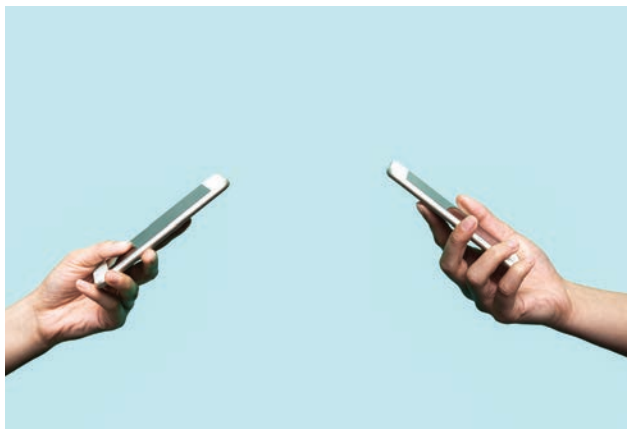
Eric Piscini, a principal in banking and technology at Deloitte Consulting, suggests that blockchain technology could bring a return to the way people got funding even before banks existed. “Blockchain is a way to go back in history, because when you think about the way we were lending, the way we were paying, the way we were trusting each other, it was peer-to-peer. Over time we added intermediaries and third parties because we stopped trusting each other,” he said.

Blockchain or distributed ledger technology makes it possible to transfer ownership of an asset from one person to another, without the need for an intermediary.

“I can say, ‘Here’s the original copy of the document, and I’m transferring ownership to you and I don’t have the original anymore,’ ” said Subhankar Sinha, director and co-founder of the blockchain practice at PwC. “In the current world it’s possible to do the transfer of ownership, but we require a trusted third party to record the transfer.”

And where today intermediaries are needed to manage credit risk and service loans, those also could be replaced with distributed ledgers.

“You can create a smart contract on a public utility blockchain, and you don’t have to trust a third party for execution of that contract,” Piscini said. “That’s a very appealing low-cost, high-trust platform that you can build that you couldn’t build before.”



A few startups are creating platforms to offer secured loans on a blockchain. Celsius is building a person-to-person lending platform on a blockchain for people who are holding digital assets, such as ethereum and bitcoin, for the long term. These people are sometimes called “hodlers.” (Apparently this term was started by a Reddit post that went viral; it was titled “I am Hodling,” with a misspelling of “holding” that the writer acknowledged.)

This could be particularly appealing for millennials. In a recent Harris Poll, 27% of millennials said they would rather own \$1,000 of bitcoin than \$1,000 worth of stocks. Among male millennials, 38% said they prefer bitcoin.

Through the Celsius platform, such cryptocurrency investors will be able to earn interest on their holdings while Celsius uses them as collateral for consumer loans.

“If you really like ethereum long term, you’re willing to lend it out but you don’t want to sell it,” said David Brill, founder of Celsius. On the other side of the equation, “the borrower gets an opportunity to get capital at a lower interest rate.”

Celsius’s proprietary algorithm creates a credit score that’s presented through the platform to potential lenders. “We will give positive weight to someone who, for instance, is a good Amazon or eBay merchant,” Brill said.

The volatility of the underlying digital currencies doesn’t affect the loans, Brill said. If a digital currency is worth \$100 and the owner agrees to lend it out at 7% interest for a year, and if the value of the digital currency drops during that year, the effective interest rate would be higher than 7%, because the loan is locked in at the price and rate on the date it was made.

Celsius is testing its platform internally. “We’re being deliberate about not rolling it out until it’s mature,” Brill said.

Salt Lending has built a mechanism for collateralized lending based on value being stored in a smart contract on a blockchain. This could be a security, a bond, a property, a title, data, or gold – anything that could be used as collateral.

The asset has to have been digitized and recorded on a blockchain. For instance, some gold storage houses and banks that store gold are representing it on a distributed ledger. The platform is mostly built on a bitcoin and ethereum blockchain.

Salt Lending is not currently using a peer-to-peer model. It's more akin to securities-backed lending and is designed for lenders like banks. The company's website says it can provide fast approval of loans with no credit checks.

"Because we're taking the senior position on the assets on behalf of the lender, if the contract is compromised in any way, you don't have to go after second forms of repayment, because we already have the primary source of repayment in possession," said John Allen, Salt Lending's chief executive.

Banks could fund loans on the network, or they could use Salt Lending's technology and license the ability to manage the collateral through the contract with their customers.

"Ultimately it's around allowing them to service their existing borrower base or client base in a new way, where many of their clients may have digital assets and would be interested in using those as collateral for dollar-denominated loans, in the same way they do with stock portfolios," said Gregg Bell, chief operating officer at Salt Lending.

Salt Lending has several bank partnerships in the works, Allen said.

In blockchain-based lending, the identity verification and credit scoring process banks go through today could be replaced with a "distributed reputation" system and a "distributed identity" system, Sinha said.

Part of a distributed reputation system would be "social intelligence," he said. "There are currently a lot of lenders who are using social intelligence and other data points in addition to credit score," Sinha said.

Celsius, for instance, collects data from social media sites as part of its credit-scoring algorithm. Reputation information from Yelp has been known to correlate with revenue for a small business.

"What a credit score largely ignores is social and other behaviors, which also reflect on a person's creditworthiness," Sinha said. "If we can combine the notion of financial behavior and social behavior together and attach it with a person's identity but let individuals be in control of their data, it solves quite

a few problems."

Under this model there would be less need for centralized identity data stores such as those maintained by credit rating agencies, which are a big target for cyberattacks.

Another startup, Bloom, is developing an identity protocol and credit score that runs on a blockchain. The user submits information to the network, like name, address, and phone number. Bloom's artificial intelligence engine learns more about the person and their creditworthiness over time.

The many obstacles to be overcome to enable person-to-person lending on a blockchain include adherence to know-your-customer rules, establishing and verifying identities, onboarding new customers, determining creditworthiness, monitoring customers and collecting on the loans.

Lenders have strict KYC and anti-money-laundering rules to follow. How do you truly "know" a customer with whom you only interact over a blockchain?

Alex Mashinsky, CEO and founder of Celsius, said his company has an extensive KYC/AML process that analyzes where a borrower or lender is from, checks names against known lists, and verifies many data points, looking for inconsistencies.

"If you try to transfer coins from Coinbase, our system gives you a higher score and passes you with fewer questions than if you are trying to transfer from an unknown source, or worse, a questionable one," Mashinsky said.

Another tricky aspect of lending on a blockchain, if cryptocurrency is being used as collateral (as so far it typically is), is assessing its value. "If you lend against bitcoin today, bitcoin is so volatile, how do you do a margin call and so on?" Sinha said. "Those are the details that a lot of people on Wall Street know how to handle in the current financial system."

Piscini predicts that blockchain technology alone may trigger a new wave of peer-to-peer lending, minus the use of cryptocurrency.

That leaves the problem LendingClub discovered – that it can be hard to do enough volume to make money with so many small transactions. "LendingClub was not making a lot of money until they started to bring in large investors and a secondary market," Piscini said.

Another challenge is collecting on loans made on a blockchain. This will test the legality of smart contracts.

"I don't think courts in any country are recognizing smart contracts as a valid way to do business," Piscini said. "So you still have to write something down and use documents, or you expose yourself to not being paid."

– Penny Crosman

Design the ultimate – and ubiquitous – virtual assistant

The commerce platforms that let people bank and pay for things with their voice get more capable every day. Google Home can now do two tasks at once, such as answer two questions simultaneously or turn on lights in two rooms. Amazon is teaching its Alexa virtual assistant to offer personalized responses when it recognizes a customer's voice.

But the ultimate virtual assistant would be personalized and work on any device, Brett King posited in a recent episode of his “Breaking Banks” podcast.

“I want to be able to call my smart assistant – say he’s named Alfred – whether I’m in my car using Siri or at home using Google Home or at the office using Alexa,” King said. “I want Alfred to be able to answer me and know me. He should know who I am just based on my voice pattern.”

Some bankers have a similar vision.

“We believe longer term that there will be a much higher order of connectivity across devices and forms of interaction,” Zach Gibson, the chief innovation officer at USAA, said in an interview.

Gibson said he foresees virtual assistants extending beyond the intelligent speakers and smartphones they run on today to work across not just all devices but essentially everything, including countertops and walls.

A user could interact with the kitchen countertop to find a recipe, get the morning’s news, and check a bank balance. Smart appliances and thermostats could also be connected.

“If my home is telling me I can change the thermostat or alter my energy usage, and that means I can save \$10 per month, can I then take that \$10 per month and use that to pay off my credit card bill or save for retirement or save for my children’s education?” Gibson said. “I think consumers will continue to expect and demand ease of use and a level of connectivity that always is two or three steps ahead of where the technology is.”

So far USAA has an Alexa Skill powered by Clinc’s voice recognition and response system.

U.S. Bank has a similar view of the future. It is developing



programs for the primary virtual assistant technologies that exist today, with the eventual hope of providing consistent service across all devices, said Gareth Gaston, its executive vice president of omnichannel.

The bank has an Alexa Skill it launched in September that customers can use to check balances on their checking, savings or credit card accounts; hear payment due dates and the amount due; obtain account transaction history; and make payments to U.S. Bank credit cards.

Bank of America is taking a more cautious approach. In early December it announced an integration with Apple’s Siri virtual assistant that allows customers to say, “Hey, Siri, what’s my checking balance?”

But for now, the bank is sharing only basic account information on conversational commerce platforms.

“We have to study and understand the security of the data, what’s being exchanged where,” said Michelle Moore, the head of digital banking at Bank of America.

“To ask basic questions around what’s my checking balance, that’s innocuous. If you want to get into some very complex transactions, we need you to come back to the mobile app. So integration with Siri, Alexa, Google Home, Facebook – we’d like to let our customers bank where they want to bank but it only can be done if it’s done soundly.”

Asked if some day, the bank’s virtual assistant, erica, will talk to Alexa, Siri, and their ilk, Moore said, “I don’t see why not. I do see it as a multiphased journey.”

Zor Gorelov, founder and chief executive of Kasisto, has a

slightly different vision; he pictures banks offering omnichannel virtual assistants in the future. Using an omnichannel financial assistant, for instance, a customer could ask Alexa for a list of transactions that occurred in November and Alexa might respond with a summary and offer to send transactions to the user's mobile app. Or a customer could inquire about a mortgage application on a mobile device during lunch hour and complete this process with a web-based assistant in the evening while working on a laptop.

"Incidentally, omnichannel virtual assistants – not Facebook Messenger chatbots or Alexa skills – are exactly what we get asked about by the most digitally advanced banks," Gorelov said.

There are at least two big hurdles to the idea of a ubiquitous virtual assistant. One is, the major platform providers (Amazon, Google, Apple, Facebook, etc.) would need to agree on a standard, work with each other, or work with a third party or abstraction layer to make their platforms interoperable.

Each of the tech biggies is likely to want to own the sole operating system that interacts on any device.

"The question is, at what point is there regulation or control around the platform and the providers, like we've got in telecom and other industries," Gibson said. "I think that's to be determined."

If the tech giants are able to find common ground, it could open up all sorts of new opportunities for consumers. Gibson pointed to the example of If This, Then That, a free web-based service that can be used to create chains of simple conditional statements that can be used to connect actions across different devices.

"You can say, 'If I get this deposit, then move it here,' or 'If my savings goes below a certain amount, turn the lights in my house red,'" Gibson said. "Consumers will expect the devices to be much more connected than they are today and have it all be much easier to use."

Some enterprising vendor could come up with an abstraction layer that communicates with all the different platforms as well as the entities providing data and handling transactions. But security could be an issue. "People will hack into anything on a Wi-Fi network," Gibson said.

For security reasons, USAA limits what customers can do on Amazon Alexa to checking balances and inquiring about spending; they can't execute transactions.

Dave Orban, the managing partner at Network Society Ventures, suggested that the platforms offered by the tech

giants could converge the way personal computer operating systems did in the '90s, adopting similar graphical user interfaces so when a user double-clicks on a button, for instance, the consequence is the same.

"It didn't matter if you were on Microsoft Windows or Macintosh. It took a bit of time but the platforms converged because it was to their advantage not to put barriers to the users moving from one to another," Orban said. "Interoperability is important, but it is even more important for developers. The platforms themselves would like to capture the developers and say, no, please only develop for Google Home or Alexa or Siri. But in the long run, that is an untenable position."

Ron Shevlin, director of research at Cornerstone Advisors, predicts that core software providers and other fintech firms will provide that integration capability. "Banks can't maintain separate systems for each device," he said.

Amazon said it's making some effort toward interoperability. In its vision for the future, "there are going to be many successful AIs with access to different sets of data and with different specialized skill areas," said spokeswoman Dawn Brun.

She noted Amazon recently announced that Alexa will be able to talk to Cortana, Microsoft's virtual assistant, which runs on Windows 10 and Windows Phone, and that Cortana will be able to talk to Alexa.

Google and Apple did not respond to interview requests.

The other big integration hurdle is getting financial institutions to agree on or share a platform, so that customers can conduct transactions at different institutions within the one virtual assistant. Gibson said consumers will demand this.

"As a consumer, I have accounts in different places, but ultimately I want to see them all together – how I save money, spend money, how I invest money are all connected regardless of which institution I choose to do that with," he said. "If I'm going to interact with my countertop in my kitchen, I don't care if I have an account at USAA or some other firm, I'm going to want to see them together so I can make the best financial decision."

It's unlikely, though, that any interface will work across all financial institutions unless there is regulatory intervention, said Shevlin.

Here again, an abstraction layer may need to be developed that lets virtual assistants interact with multiple financial institutions.

"This space is ripe for new entrants and players, in addition to more established firms," Gibson said. – Penny Crosman

MEET & GREET^{PEOPLE}

PEOPLE TO WATCH 2018

JACK DORSEY

Dorsey, the internet wunderkind who is the co-founder and chief executive of both Twitter and Square, is at the center of the debate over whether tech companies should be allowed to become banks. If Square's application to charter an industrial loan company is successful – over community banks' vigorous objections – other challengers from the tech sector could follow. The fate of the payment processor's application rests with the Federal Deposit Insurance Corp., which for years has been perceived as being skeptical of allowing new ILCs, but could be more amenable now that it has Republican-appointed leadership.



MARGARET KEANE

Keane, Synchrony Financial's CEO, is intent on keeping up with changes in American spending habits, and a recently announced partnership with PayPal's consumer-lending arm is bound to help. Consumers use PayPal Credit to finance big-ticket items they purchase online and Synchrony is set to become the exclusive issuer of PayPal Credit for the next 10 years.

This gives Synchrony a new way to reach consumers at a time when store-branded credit cards – its main business – are losing appeal, particularly among younger generations. But the move comes with some risk, as nearly half of PayPal's \$6 billion of outstanding loans are to borrowers with credit scores below 680. Another reason Keane is worth watching: HSBC is said to be looking to acquire a U.S. credit card business and one of its rumored targets is Synchrony.



CHARLIE SCHARF AND MICHAEL O'GRADY

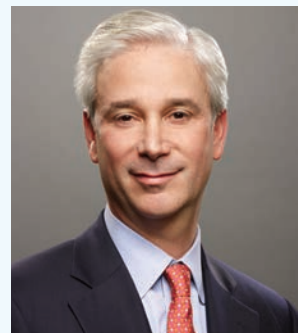
Two of the three U.S. custody banks will have new CEOs in 2018 and both men will be facing similar challenges. Charlie Scharf, who has been CEO at Bank of New York Mellon since July, and Michael O'Grady, who becomes the CEO at Northern Trust as of Jan. 1, are both tasked with determining how to best use technology to increase efficiency. Scharf was hired in part due to his fintech background, as BNY Mellon

aims to continue former CEO Gerald

Hassell's digitalization of its operations, including the use of robotic process automation. Northern Trust was one of the first companies to use IBM's blockchain, but only to manage private-equity transactions, a low-volume business. Perhaps Northern Trust will be able to find other uses for blockchain technology, like processing hundreds of thousands of transactions.



O'Grady



Scharf



MATT ZAMES

When Zames stepped down this summer as JPMorgan Chase's chief operating officer, he said that he wanted to run his own business — either in traditional finance or in fintech. He has yet to re-emerge in the industry, but speculation has been that he will join the growing list of former Jamie Dimon protégés who have become CEOs elsewhere. They include Charlie Scharf, first at Visa and now at BNY Mellon, and Jes Staley, at Barclays. For now, Zames has taken a role in academia, as an executive in residence at his alma mater, MIT's Sloan School of Management.

John Ciulla

For the first time in its 82-year history, Webster Financial in Waterbury, Conn., is getting a CEO whose surname is not Smith. Ciulla, Webster's president, succeeds longtime CEO James Smith as of Jan. 1. It's a milestone moment for the \$26 billion-asset company, which was founded as the First Federal Savings and Loan of Waterbury in 1935 by Smith's dad, Harold Webster Smith, who was only 24 at the time. He ran the bank for more than 50 years before his son took over in 1987 and proceeded to grow it from a local thrift to a regional commercial bank. Ciulla joined Webster in 2004 when it was still largely a thrift, and among his key contributions has been expanding its commercial lending capabilities. As is the case with many regionals trying to compete with larger rivals, keeping the momentum going will be a big challenge.



TERRY TURNER

Turner, the CEO of Pinnacle Financial in Nashville, must have a deal in mind for 2018, right? Pinnacle was fairly big in Tennessee, and then in June it bought BNC Bancorp in High Point, N.C., increasing its asset size by two-thirds. That deal put the now \$22 billion-asset Pinnacle on a larger playing field and raised questions about whether it would expand in North Carolina, Virginia (where it has a small presence) or elsewhere in the Southeast. The company is eyeing “strategic target markets” like Atlanta, Richmond and Virginia Beach for banks that have at least \$1 billion of assets, specialize in commercial lending and meet other criteria. Turner is particularly interested in metropolitan Atlanta, but noted that, with the number of targets there limited, de novo expansion is possible.



CRAIG DAHL

Dahl has made some pivotal changes since succeeding longtime CEO Bill Cooper at TCF Financial in Wayzata, Minn., in 2016. In May TCF said it would stop selling its auto originations to minimize volatility in fee income, and then in November it said it would exit auto lending altogether. The big question is about Dahl's next move: Will he be able to replace a business that was 17% of TCF's loan book and produced lots of noninterest income, or will he put the \$23 billion-asset company on the block?

Elizabeth Duke

Duke's mission as the new chairman of Wells Fargo is clear: Get the embattled bank off watch lists like this for a while. Every time things at Wells finally seem to quiet down, news of a new problem or enforcement action surfaces. Duke and the rest of the board — as of Jan. 1, six of its 16 members will have arrived after the phony-accounts scandal broke — will be under pressure to show tangible signs that they have reshaped corporate governance and made progress on rebuilding trust with employees and customers. But is Duke, a former banker and Federal Reserve Board governor, independent enough to do what's necessary?



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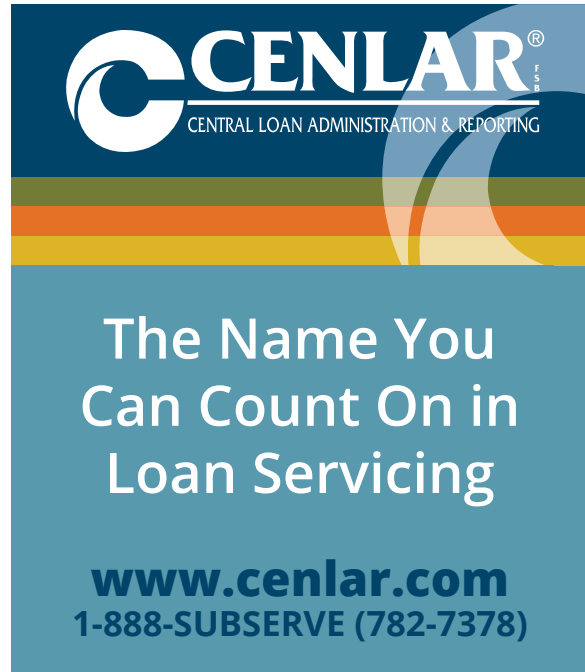
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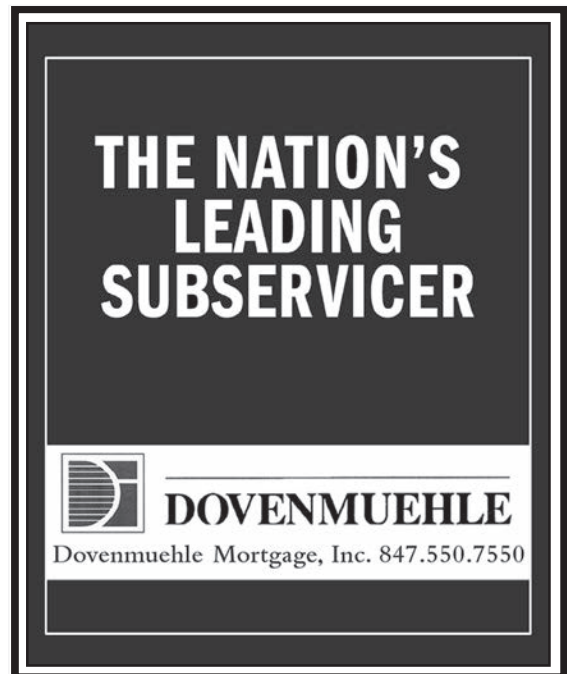
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BackPorch



GREG CARMICHAEL

"The only secure network is one that is powered down and shut off."

Fifth Third Bancorp's CEO, describing cybersecurity as a constant worry

JAMES CHESSEN

"It's like a game of cat and mouse. Banks try to be right 100% of the time. Criminals only have to be right once in 10,000 tries."

Executive vice president for the American Bankers Association, on the daily barrage of cyberattacks targeting banks

KEITH NOREIKA

"Nothing in law requires their existence, and they serve no inherent banking purpose."

Former acting comptroller of the currency, arguing that bank holding companies are obsolete

SERGIO ERMOTTI

"I think this discussion is made by people who are maybe frustrated that they do not make that kind of level of money."

UBS CEO, saying regulators' attempts to reduce bankers' pay are motivated by envy

SEN. RICHARD DURBIN

"Wall Street hates it like the devil hates holy water."

Illinois Democrat, speaking in defense of the Consumer Financial Protection Bureau



BLOOMBERG NEWS

MICK MULVANEY

"The structure of the CFPB is just fundamentally flawed. Authority that I have now as the acting director really should frighten people."

Acting director of the Consumer Financial Protection Bureau, an agency that he argues interferes with capitalism and wields too much power without congressional oversight



TERRY DOLAN

"The amount of regulatory reform has been limited, but the way that people are thinking about and interpreting it is better."

U.S. Bancorp's chief financial officer, on the shift to a more positive tenor from regulators

KEN CHENAULT

"We can't be reduced to simply facilitating a payment."

Outgoing CEO of American Express, warning U.S. banks to diversify their business models

ENO

"I live on the internet. So many cat pictures ... I love it."

Capital One's witty chatbot, answering a question about where it lives



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