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OUTLOOK 2015**Technology**

Technological change in financial services will race ahead even faster in 2015, transforming a landscape where financial institutions reach for new products and revenue while scrambling to manage an ever-expanding universe of risk. Banks will confront more competition on payments, even as long-running debates over cybersecurity and information-sharing may finally yield concrete results. In-house changes are in store for managers, directors and information system czars, all in the face of fast-changing customer expectations and on a scale beyond anything yet seen.

Finance Tech: Cybersecurity, Payment Processing, Virtual Currency, Patents

The world of financial technology spun a little faster in 2014. Virtual currency gained a bigger footprint, Target Corp. suffered a major breach of customer data, Apple launched a new phone-based payment option, and little companies like payment processor Venmo, which handled \$700 million in payments during 2014's third quarter, turned themselves into verbs.

Saddle up for more change in 2015, as financial technology, or "fintech," leaps ahead on a mind-numbing scale and pace.

"Some of the things we're talking about would be once in a lifetime but it's all happening at the same time," said Tom Price, managing director for the Securities Industry and Financial Markets Association (SIFMA) and head of the group's technology, operations and business continuity planning group.

"We are seeing huge structural change that will transform our industry for years to come," Price told Bloomberg BNA Jan. 20.

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TOM PRICE, SIFMA

The challenges for the private sector will also be felt by federal and state authorities who oversee the vast and growing financial services industry.

Jo Ann Barefoot, senior advisor for Treliant Risk Advisors, said technological innovation may overwhelm regulators who may not be prepared for the enormous changes coming.

"I think innovation is going to create huge new risks, and potential benefits, for consumers, and it will be a daunting challenge for regulators to let the good things

happen while preventing the bad," she told Bloomberg BNA Jan. 14. "I also think people are underestimating the convergence issue—that all these trends are big and coming fast, individually, but when they converge, they will really break and replace old models," she said.

Projects in Play. A host of important projects are in the works that will see major action or progress in 2015.

They include a major initiative by the Federal Reserve to improve the speed, efficiency and security of the U.S. payment system (the Fed released recommendations Jan. 26); a proposal by NACHA, the Electronic Payments Association, to move the automated clearing house (ACH) system from next-day processing to a same-day approach; and a multiyear effort by The Clearing House to build a ubiquitous, real-time payments system.

Others to watch include path-breaking work in connection with virtual currency. The New York Department of Financial Services (DFS) has proposed a new framework for regulating virtual currencies, recently modifying the plan to encourage innovation and ease burdens on start-ups.

Meanwhile, the Conference of State Bank Supervisors (CSBS), following work by the group's Emerging Payments Task Force, has asked for comment on a broad model regulatory framework for virtual currency.

The DFS and CSBS efforts, if finalized as expected in 2015, will signal important structural change by framing up a legal and regulatory architecture around virtual currency.

Payments, Payments, Payments. There is near-unanimity that 2015 will bring landmark changes in the payments arena.

Margo Tank, a partner with BuckleySandler in Washington, who advises financial services institutions and technology companies, said any company with a technology platform is looking to move into the payments space.

"Whether the company is moving value, fiat or virtual currency, paying bills, or even paying your tips or royalties, any way you can move value using technology is where the business development is as well as where the regulators are focused," Tank told Bloomberg BNA Jan. 20.

Virginia Heyburn, vice president of insights and advocacy at financial technology provider Fiserv, said 2015 will be an inflection point as competitors make new moves.

"For years there has been talk about the threat from Google, Apple, and other alternative providers," Heyburn told Bloomberg BNA Jan. 15. "Now, in 2015, those kinds of companies are beginning to eat into the revenue of regulated institutions."

Mobile Breaks Out. Plenty expect mobile payments to break out in 2015, building on momentum from the Apple Pay launch in 2014 and other offerings.

Trevor Salter, an attorney in the Washington offices of Ballard Spahr who focuses on electronic commerce and payments law, said the best model will be the mobile wallet built on a four-legged stool—the payment mechanism, the loyalty program function, the promotion platform and the financial education tool.

"Everyone wants to be able to pay with a card, take advantage of a promotion or add points to your loyalty program, and be able to review all of that with a finan-

cial education tool, all with one tap of the phone in one transaction," Salter told Bloomberg BNA Jan. 13.

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'eBay does it this way, why can't you?'

VIRGINIA HEYBURN, FISERV

Barefoot said the move to mobile and phone-centered financial activity will disrupt traditional bank products and customer relationships, while driving shrinkage and repurposing of bank branches.

"That in turn will almost certainly force changes in the Community Reinvestment Act, as many community advocates will resist branch closures in lower income areas," she said. "To the extent they succeed, banks will be at a competitive cost disadvantage. We should focus on helping lower-income people move to using mobile services," Barefoot told Bloomberg BNA.

EMV, Tokenization Spotlighted. Also on tap will be an important changeover as merchants increasingly adopt the Europay Mastercard Visa (EMV) payment standard.

EMV-based credit cards and debit cards use embedded microprocessor chips to store and protect consumer data, eliminating the magnetic stripe that readily gives up that data if the "magstripe" is skimmed or copied.

One question in 2015 will be the extent to which tokenization also makes strides toward wider adoption. Tokenization, which replaces credit card data or other valuable data with a data-based "token" that has no value in itself, is expected to gain more ground, and already is the approach of choice by several look-to players. Apple Pay uses tokenization, while The Clearing House has settled on a token-based system for its real-time payment project.

L. Cary Whaley III, vice president for payments and technology for the Independent Community Bankers of America (ICBA), said the EMV-tokenization question is not an either-or proposition.

"EMV protects banks against counterfeiting by taking the magstripe out of the equation, and tokenization helps you with card-not-present transactions," Whaley told Bloomberg BNA Jan. 16. "EMV has had a big head start, but the concept of tokenization will close the gap."

Ideally, he said, "some sort of robust encryption" might be added to ensure data in transit.

"This is extraordinarily expensive to all parties involved, but in lieu of recent data breaches it's an investment the industry needs to make," Whaley said.

Long-Term Costs. Even so, the cost of committing to a new fintech-driven world may pale compared to the cost of slipping behind.

According to Heyburn, banks that fail to respond to the new challenges could find themselves stuck with low-margin accounts, while alternative providers walk away with high-margin offerings like credit cards and payments.

The challenge is intensified by a new set of expectations often established by alternative providers and taken for granted by a new generation of customers, especially those in younger age brackets.

"Today, consumer expectations are being shaped outside of traditional financial services," Heyburn said. "Consumers are coming to banks and saying, 'eBay does it this way, why can't you?'" ."

Data Risk-Reward. Inevitably, as banks experiment with new offerings, new questions will arise, some of which will be a factor in 2015.

For example, sophisticated data analytics offer banks the chance to pair transaction data with so-called experience data—how consumers interact with bank websites or third-party websites or apps—as well as data about a consumer's location.

The trick, said Ballard Spahr's Salter, is to achieve that goal in a manner agreeable to consumers who may be wary about sharing that information.

"We're sitting on a pile of data," he said. "We know it's very valuable, so the question is how to draw conclusions from the data and the correlations in a way that's legally permissible and that doesn't alienate the customer."

In some cases, efforts to better serve consumers might spark entirely new questions. According to Barefoot, although smart phones will be able to help guide a consumer's financial life by using machine learning, artificial intelligence, voice technology and big data, consumers may balk.

"Eventually, we won't need to take classes in 'financial literacy,' which has failed, but will instead have a 'coach' in our phone," she said. "This will raise big issues about whom the consumer is going to trust."

In-House Changes. Some adjustments in 2015 will come in-house. Although banks are eager for new fintech-driven product opportunities and revenue, many will have to modernize their core systems first, according to KPMG Principal for Financial Services Banking Technology Anand Shah.

He said banks rushing to take advantage of new digital and mobile technologies sometimes find that their underlying systems cannot support their ambitions.

"The crux and the foundation of being able to provide those capabilities starts with modernizing their core," Shah said Jan. 19.

There was also wide agreement that directors will face an array of questions. Stuart D. Levi, a partner with Skadden, Arps, Slate, Meagher & Flom in New York who co-heads the firm's intellectual property and technology group, said lawyers likely will see more focus on corporate governance and what that means in the cybersecurity context.

"This has long been an IT issue but over the last two years, companies have realized it's also a governance and risk management issue," Levi said Jan. 14. "If you're a director, you don't need to be a cybersecurity specialist, but you need to be plugged into these issues and aware of the risks and mitigation steps the company is taking."

Chief Data Officers. The Deloitte Center for Financial Services is predicting a wider role for chief data officers (CDOs), saying they will join the hunt for new revenue.

"The role of the CDO must also evolve beyond immediate priorities such as data governance and data quality," Deloitte said in its 2015 banking outlook. "For instance, seeking value creation through collaboration with the business lines and functional groups will increasingly become the hallmarks of success."

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DELOITTE 2015 BANKING OUTLOOK

CDOs also will play a bigger role in what Deloitte called an emerging unit in leading companies—a central regulatory management office (RMO) tasked with improving overall operations and decision-making.

Deloitte, while predicting that more banks will embrace RMOs in 2015, said the success of the RMO "will rest on a robust regulatory data warehouse, to be owned by the CDO, while the RMO is owned by the chief compliance officer."

Regulation, Compliance, Enforcement. Judd Caplain, KPMG advisory services lead partner for banking and capital markets, predicted more automation of demanding reporting requirements, especially in connection with the Comprehensive Capital Analysis and Review (CCAR), the Federal Reserve's annual analysis of capital and capital planning at large bank holding companies.

"Something like the CCAR submission is extremely manual and cumbersome, and we're looking to automate that," he told Bloomberg BNA Jan. 19.

The coming year and those to follow may also provide opportunities for companies to scrap obsolete systems. One such opportunity is possible in the context of the Consolidated Audit Trail (CAT), a massive initiative driven by Securities and Exchange Commission Rule 613. The rule requires self-regulated organizations to submit a plan that would allow regulators to comprehensively track national market system securities.

The CAT, a top priority for SIFMA, may give companies an opening to realize other efficiencies.

"When you look at the size and scale and scope of this, it's an enormous task, which the industry is very supportive of," Price said. "But we also want to eliminate systems that have become redundant and sunset systems that have become obsolete, systems that continue to drain the resources of firms that can put those resources to better use," he said.

Regulators Are Watching. More changes are ahead for compliance officers, especially in the wake of enforcement action in December by the Financial Crimes Enforcement Network (FinCEN) against Thomas E. Haider, the chief compliance officer for MoneyGram International Inc. from 2003 to 2008.

FinCEN's move against Haider followed action earlier in 2014 by the Financial Industry Regulatory Authority (FINRA) against Brown Brothers Harriman & Co. that included a \$25,000 fine against BBH's former compliance officer.

Both moves were seen as significant escalations in the compliance and enforcement context. Although enforcement action is common against directors and officers, the actions involving MoneyGram and BBH signaled a heightened willingness by regulators to reach into financial companies and focus on individual compliance officials.

The MoneyGram and BBH actions, though significant for regulated companies that already understand compliance risk, also are important for technology companies moving into financial services. Those companies may be less attuned to the consequences of violating relevant financial laws and regulation, and on the degree to which state regulators, state attorneys general, the Federal Trade Commission and the Consumer Financial Protection Bureau are engaging on a range of consumer protection and compliance issues.

"There's a huge East-West divide in terms of understanding the need to create a culture of compliance," Tank said.

Hopes for Legislation. Several voiced optimism that 2015 could see headway on legislation involving cybersecurity and information-sharing, citing a new focus by President Barack Obama in his State of the Union address and in several White House events leading up to it.

In his Jan. 20 speech, Obama urged Congress to pass bipartisan legislation, putting the battle against hackers and data thieves on a par with the administration's anti-terrorism effort.

"If we don't act, we'll leave our nation and our economy vulnerable," Obama said. "If we do, we can continue to protect the technologies that have unleashed untold opportunities for people around the globe."

Skadden's Levi said an active role by the White House in specific legislation could boost the chances for successful action on Capitol Hill.

"It adds gravitas and increases the chances for passage this year," Levi said. "That's significant because for years, Congress has debated similar legislation, but nothing came of it. With the White House taking the lead, we might see legislation enacted this time."

Patents in Play. Officials at The Clearing House, while echoing hopes for action on cybersecurity and information sharing, also are working to advance patent reform. Patent reform is important because innovation by banks and financial services vendors often is driven by venture capital, which in turn frequently involves patents.

Clearing House Executive Managing Director and Head of Government Affairs Jill Hershey said she sees encouraging signs on that front from committees in the House and the Senate.

"There are early signals from leadership on both sides of Congress, the House and the Senate, that this will be a priority for them," Hershey said Jan. 16.

Even if patent legislation does pass, it's not a silver bullet, according to Clearing House Senior Vice President and Associate General Counsel Sean Reilly. He said The Clearing House has launched a patent initiative to give patent examiners more prior art—non-patent literature that can be used in reviewing patent applications or attacking a patent's validity.

The additional prior art will ease examiners' access to those resources in connection with patents or patent applications on business methods and other matters critical to the financial services industry.

"Historically, patent examiners only looked at prior patents when evaluating applications in the financial services space," Reilly told Bloomberg BNA Jan. 16. "We're trying to shore up the prior art."

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