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Electronic Transactions Association

1620 L ST NW, Suite 1020
Washington, DC 20036
202/828.2635
www.electran.org

ETA CEO Jason Oxman

COO Pamela Furneaux

Director, Education and Professional Development Rori Ferensic

Vice President, Strategic Partnerships Del Baker Robertson

Director, Communications Meghan Cieslak

SVP, Government Relations Scott Talbott

Director, Industry Affairs Amy Zirkle

Director, Regulatory Affairs Philip (PJ) Hoffman

Publishing office:

Content Communicators LLC

PO Box 938
Purcellville, VA 20134
703/662.5828

Subscriptions: 202/677.7411

Editor

Josephine Rossi

Editorial/Production Associate

Christine Umbrell

Art Director Janelle Welch

Contributing Writers

Ed McKinley, Josephine Rossi, Scott Talbott,
Christine Umbrell, and Amy Zirkle

Advertising Sales

Alison Bashian

Advertising Sales Manager

Phone: 703/964.1240 ext. 280

Fax: 703/964.1246

abashian@conferencemanagers.com

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The TRANSACT ImpACT

Today is about seizing the moment. Our industry continues to thrive and innovate, with new entrants, new partnerships, new technologies, and new services. Because of all this change, you need one place where you can review available technologies, talk with existing and future partners, and learn about the latest trends and opportunities in payments. TRANSACT is the only place where you can find it all. Connecting the entire sales channel—in-store, on-line, and mobile—TRANSACT has become the event where the future of payments is created. Once a year, TRANSACT brings all the global players together to offer attendees the opportunity to meet with hundreds of exhibitors from more than 30 countries on the TRANSACT show floor.



Attendees say TRANSACT is where they are able to knock out a year's worth of business meetings in just three days. One of my favorite parts of TRANSACT is witnessing the brainstorming and introductions that take place everywhere—in the hallways, on the golf course, on the show floor, and at ETA's gala, the Visa President's Dinner. TRANSACT offers you a front-row seat to observe the creation of partnerships that will build payments' tomorrow, witness innovators gathering to make the deals that will shape the industry, and interact with new technologies that will inspire your next big idea.

And, to give you an edge, we've put together the most exceptional educational lineup in TRANSACT history to keep you in the know on politics and policy, globalization, security technologies, and 22nd century payments. As a new administration takes over in Washington, DC, you need to understand how Congress and federal regulators will impact your business. We're committed to ensuring that you are primed to attract the best leads and close the best deals with confidence.

We've also amplified our media coverage. At TRANSACT, you'll find more than 50 media outlets covering all the buzz generated by new tech demos, product unveils, and industry announcements from the biggest brands and the hottest startups. The VC community will be in Las Vegas on May 10-12, looking for new investment opportunities. As always, the energy will be electric.

For ETA, putting on the most highly focused payments event of the year is our business. We are committed to the success of our industry and our 500+ member companies. Register for TRANSACT today! **TT**

Jason Oxman
Chief Executive Officer
Electronic Transactions Association

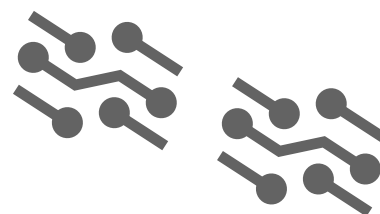


First Data Reports ‘Strong’ Holiday Spending

Overall consumer spending during the 2016 holiday season increased nearly 5 percent, according to the First Data’s “2016 SpendTrend” report, which comprises card-based data from nearly 1 million U.S. merchant locations. More specifically, e-commerce transactions grew by 12 percent and accounted for more than 21 percent of all holiday spending, up nearly 6 percent from 2015.

Retail spending grew 3.6 percent year-over-year (YOY), but department stores were down nearly 5 percent overall. Women’s ready-to-wear retailers saw a decline of 3.7 percent in YOY growth, while electronics and appliances were up 8.5 percent after being down 2.2 percent during the 2015 holiday season.

First Data also reported slight growth for physical stores, which posted 1.6 percent growth. Spending in the West and Midwest primarily accounted for that increase. Meanwhile, retail spending in the Southwest declined, down 0.6 percent.



Fast Fact

More than 19 percent of the **4,149 data breaches reported in 2016** exposed credit card numbers. Another roughly 10 percent exposed financial account numbers.

Source: “2016 Data Breach QuickView,” Risk Based Security Inc.

Infographic

Desktop Online Holiday Sales in 2016 vs. 2015

	Millions (\$)		Percent Change
	2015	2016	
Full Holiday Season (Nov. 1-Dec. 31)	\$56,427	\$63,098	12%
Thanksgiving Day (Nov. 24)*	\$1,096	\$1,287	17%
Black Friday (Nov. 25)*	\$1,656	\$1,970	19%
Holiday Weekend (Nov. 26-27)*	\$2,169	\$2,486	15%
Cyber Monday (Nov. 28)*	\$2,280	\$2,671	17%
Thanksgiving through Cyber Monday*	\$7,201	\$8,414	17%
Green Monday (Dec. 12)*	\$1,408	\$1,621	15%
Free Shipping Day (Dec. 16)*	\$845	\$967	14%

*Corresponding days based on corresponding shopping days
 Note: Data includes nontravel (retail) e-commerce spending and excludes auctions and large corporate purchases.
 Source: comScore Inc.



Cybersecurity Resource Limitations Loom Large for IT

Among the challenges facing IT security management, “corporate security demands still outpace the available talent at alarming rates,” according to a new study released by Trustwave and conducted by Osterman Research. “The study shows that a fast-moving confluence of skills shortages, worsening threats, and disproportionate spending habits is leaving organizations increasingly vulnerable to data breaches, malware, phishing, and a variety of other information security problems that can have serious or even devastating consequences,” the security firm said in a press release.

The survey of 147 IT security “decision makers and influencers” reported that 57 percent said finding and recruiting skilled IT talent is a “significant” or “major” challenge. Only 18 percent believed 75 percent or more of their staff has the skill sets to deal with complex issues, and roughly 10 percent said it is



“very likely” they will have appropriate staff to meet future security demands. Forty percent said the most inadequate skill sets are in emerging and evolving security threats.

“The shortage of staff able to solve complex security issues is an industry problem that continues to worsen, but the way organizations are going about filling this void is all wrong. Typical recruiting methods are not proving fruitful, yet we keep seeing enterprises simply throwing

bodies at the problem when what is really needed is a better staff training, more budget support to hire the right personnel, and additional assistance from experienced third-party experts...,” said Trustwave Senior Vice President of Managed Security Services Chris Schueler.

Other key findings from the report include the following:

- Turnover is higher among IT security professionals than in other departments, according to 36 percent of respondents.
- Twenty-four percent of respondents have “complete control” of their annual IT security budget, while 24 percent have “little to no control.”
- Seventy percent of respondents reported “disagreements between IT and senior management on budget and staffing issues.”
- One-third of respondents find it difficult to identify the IT security skills and competencies needed.

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Biometric Smartphone Market Exploded in 2016

The biometric smartphone market is red hot, according to the 2017 edition of “Biometric Smartphone Update” by Acuity Market Intelligence, a technology strategy and research consultancy. The study reports that 87 smartphone vendors introduced 346 biometric smartphones last year, for a total 549 introduced since 2013. This firm also says that roughly 1 billion biometric smartphones—40 percent of the global smartphone market—are currently in use.



“The proliferation of biometric smartphones is extraordinary. The 500 models currently available represent a tenfold increase in two years,” said Maxine Most, principal, in a press statement. “Biometric smartphone growth will continue as mobile application security, particularly for financial services, requires biometric authentication, low-cost sensors drive down the cost of biometric integration, and consumers demand an end to password- and PIN-based security.”

Within two years, Acuity predicts biometric smartphones will reach 100 percent market penetration.

“This will not only fundamentally change the dynamics of the smartphone market but create a truly global platform for biometric authentication,” said Most.

Payments processor **Clearent** will acquire **Payment Alliance International's** (PAI) Merchant Services Division, which provides of payment processing solutions for businesses, and was a former ETA ISO of the Year. Prior to the agreement, PAI acquired Louisville-based ATM operator Avery Scott LLC.

ETA recently welcomed seasoned policy professional **Philip (PJ) Hoffman** as its new director of regulatory affairs. Hoffman brings extensive policy experience in fintech and banking policy to ETA. His background is important for ETA's membership, as industry undergoes dynamic change requiring top-notch regulatory and legislative ETA advocacy for financial services, payments, and fintech.

Management consulting and M&A advisory firm **First Annapolis Consulting Inc.** has promoted **Emily Boese, Erik Howell, and Casey Merolla** to principal. Boese focuses on the firm's merchant acquiring practice, advising acquirers and large merchants with payment acceptance strategies. Howell advises the firm's European clients on card issuing and acceptance matters, and Merolla works on its payment strategy and innovation team, advising clients on enterprise payments strategies with expertise in debit and prepaid products.

National Merchants Association has named **Marcy Grimm** vice president of partner relations. Grimm previously held positions of vice president of strategic partnerships and regional business director with national organizations.

TSYS has named **Philip McHugh** senior executive vice president and president of merchant solutions, effective May 1. McHugh has more than 20 years of experience in international banking and payments, most recently serving as CEO of Barclaycard Business Solutions.

Visa has announced an agreement to acquire **CardinalCommerce**, a provider of e-commerce payment authentication solutions.

Fast Fact

As some social media platforms are dropping out of social commerce, 72 percent of email marketers report they had **no sales via buy buttons on social media in 2016**. More than 40 percent plan to reduce their use of buy buttons in 2017.

Source: “Digital Marketing Industry Report,” Campaigner



Advocacy Initiatives

Advancing the payments industry at the state and national level

By Scott Talbott

As the world's largest payments industry trade association, ETA provides our members with a powerful voice in Washington, DC, and state capitals around the country. We offer a wealth of knowledge and resources that are critical for your business. A trade association has more leverage to advocate for its members, providing a unified voice across the industry by bringing many smaller companies together. Your membership investment in ETA helps us build political clout and the ability to have a say in regulations that will affect our industry.



Below is an overview of some of ETA's recent advocacy initiatives. Future editions of Politics & Policy will provide members with updates on how ETA is working with the Trump administration to shape policies affecting our industry.

OCC and Fintech Charters

On Dec. 2, 2016, the Office of the Comptroller of the Currency (OCC) announced that it will issue special purpose national bank charters to fintech companies. Accompanying that announcement, the OCC published a whitepaper on the topic and requested comments on the granting of special purpose national bank charters.

On Jan. 17, 2017, ETA submitted a comment letter in support of the OCC's announcement that it will consider applications for special purpose national bank charters from fintech companies. In those comments, we recommended that the OCC adopt a flexible and collaborative approach to the design of a charter application and evaluation process that works for fintech applicants while satisfying the OCC's regulatory expectations.

Because fintech companies come in all shapes and sizes with a varying degree of products offered, it is imperative that the OCC take a case-by-case approach when reviewing applications to account for the differences between traditional banks and fintech companies. That flexibility allows fintechs room to innovate and provide the best products and services for consumers. To read the comment letter, visit www.electran.org/wp-content/uploads/ETA-Comments-on-OCC-Fintech-Charter-RFI.pdf.

The States

ETA's efforts don't end in Washington; we work in all 50 states to help defeat harmful bills and advance beneficial ones. State policymakers have a huge impact on how we do business—and this influence is only growing stronger.

Georgia. Regulation of an industry can take many forms, whether it's a new law or regulation establishing licensing or reporting requirements. States, many facing budget shortfalls, are also looking to the modern payments industry as a source of revenue. Regardless of whether the payments company has a direct relationship with the consumer, these taxes increase the cost of doing business, and often result in higher prices for consumer goods and services.

Legislation has been introduced in the 2017 legislative session to place a fee on all wire transfers sent outside the state of Georgia. The proposed bill would require financial institutions to collect a fee on every money transmission transaction and provide tax disclosures for consumers. The taxpayer would be allowed a state tax credit on the fee imposed equal to the fee paid. ETA opposes this bill.

New York. One area state policymakers are examining is money transmitter laws. Regulations on money transmitters are changing rapidly and transforming how the payments industry operates.

The New York Department of Financial Services has issued proposed regulations to require banks and money transmitters to tighten up their anti-money-laundering programs. The rules require an annual board resolution or senior compliance officer statement outlining the steps taken to ascertain compliance with the transaction monitoring and filtering requirements.

Pennsylvania. Pending before the Pennsylvania legislature is a bill to amend the Money Transmission Business Licensing Law (HB 850). The bill has been passed by the House and is being considered by the Senate. The good news is that the bill creates an exemption for agents of the payee. Some of the other provi-

sions of the bill, however, have raised concerns, which ETA has addressed in a letter to the members of the Senate Banking and Insurance Committee. ETA objected to a provision that would give the Department of Banking and Securities authority to deny or restrict a money transmitter license if any employee of the applicant, regardless of the employee's position, has been convicted of a crime of moral turpitude or a felony, or whether they owe the state money. ETA also objected on security grounds to a provision that would give the Department the unqualified right to remove documents, files, or records from the licensee's premises.

Additionally, as in Washington State, the Pennsylvania Department of Banking and Securities issued an advisory that could have required ISOs and processors, including payments facilitators, to register as money transmitters.

The Department is focused on consumers making donations to churches, charities, or other nonprofit organizations, where a payment facilitator collects donors' contribution and then remits it to the charity.

Washington. In December of 2015, the Division of Consumer Services of the Department of Financial Institutions (DFI) in the state of Washington issued an interpretive statement declaring that merchant processing is money transmission under the state's Uniform Money Services Act (Act). Processors must either obtain a license or apply for a waiver. The new rules became effective a few weeks after Jan. 1, 2016.

Many in the industry, including ETA, were concerned by the novel approach, the short implementation time frame, and the disconnect in the statement between the role of payment processors and the Act, especially considering it seems to ignore the

existing payment processor exception in the Act.

ETA helped lead the efforts to work with the DFI to amend the Act to clearly carve out payment processors. In early January, the state legislature passed a bill and sent it to the governor for his signature. ETA submitted a statement in support of the bill and is hopeful the governor will sign the bill into law.

Additionally, the Department of Revenue is considering applying the state's business and occupations tax to payment processors.

ETAPAC

It is crucial that that we elect policymakers to Congress who understand the issues facing the electronic payments industry.

Fortunately, advancing the payments industry is the top priority for the ETA government affairs team, and the ETAPAC is a powerful tool that strengthens the ETA government affairs team's ability to represent members' interests in Washington, DC. In fact, 25 of the 27 candidates that ETAPAC supported won their elections and will serve in the 115th Congress. This is a 93 percent success rate.

To learn more about the ETAPAC, or if you have not already granted a national trade association permission to solicit select executives at your company, please visit www.electran.org/etapac-authorization-for-solicitation. **TT**

Scott Talbott is senior vice president of government affairs at ETA. For more information, please contact Talbott at stalbott@electran.org or Grant Carlson, government affairs specialist, at gcarlson@electran.org.

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New Administration, New Opportunities

How will a less burdensome regulatory environment—and other governmental changes—affect payments?

By Christine Umbrell

The United States is in a period of transition, with a new president and a Republican-controlled Congress now at the helm. The first few months of the new administration—which follow an unconventional and tumultuous election season—are expected to bring about tremendous change, which will no doubt have repercussions for the payments industry.

Predicting what happens next may be a challenge. While many payments professionals foresee a less severe regulatory environment—which could be advantageous for many payments companies—the details remain in question. Because Donald Trump enters the presidency with an extensive business background but without a political record, it is hard to

forecast exactly how the next four years will play out. But given Trump's pro-business leanings, and control of both houses of Congress by the GOP, it is likely that some payments-related regulations will be dialed back.

As the Trump administration settles in, the country will see which issues become priorities—and how changes related to regulations, international activities, and cybersecurity may affect the payments industry.

Easing Up on Restrictive Laws and Regulations

Proponents of business are hopeful about the future, given the new administration's distaste for over-regulation. Payments companies stand to benefit from a number of campaign promises made by President Trump and Republican legislators, including the potential dismantling of the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act, the end of Operation Choke Point, and reform of the Consumer Financial Protection Bureau (CFPB). But whether, and to what extent, these goals will be achieved remains to be seen.

The payments industry has seen a lot of innovation in recent years, with initiatives such as EMV, tokenization, fintech, and person-to-person (P2P) changing the way payments are viewed. "The payments industry's development and deployment of new technology has put payments on the radar for regulatory initiatives—which is both good and bad," says Scott Talbott, ETA's senior vice president of government affairs. In recent years, "the regulators have been taking a more heavy-handed approach." But the president campaigned on "more of a free market approach."

Some deregulation could lead to opportunities for payments companies, says Aaron Press, director, payments, at LexisNexis Risk Solutions. "We've already seen rumblings around Durbin [the amendment that required the Federal Reserve to limit transaction fees charged to retailers for debit card transactions] and interchange regulation," he says. If the regulatory environment surrounding those two areas is eased, "it could have an impact on revenues. And it could be a potential catalyst for creating innovation," Press says. "In general, less regulation invites innovation."

Many payments professionals are hoping for the dissolution or scaling back of the Dodd-Frank Act—the sweeping legislation passed in 2010 to address problems underlying the 2008-2009 financial crisis. The 2,300-page law, which Trump recently called a "disaster," was written primarily by Democrats, and was designed to provide oversight of an industry that Democrats believed took too many risks on Wall Street and took advantage of uneducated consumers. But Trump and Republicans have said the law is layered with too many regulations.

Trump recently signed an executive order that set in motion his plan to scale back the provisions of Dodd-Frank. While no immediate changes were made, Trump ordered the heads of regulatory agencies to report back to him within 120 days with suggestions to change the financial regulation. "Trump wants to

roll back Dodd-Frank, but he will encounter procedural, political, and public opinion challenges," says Talbott. "It will be difficult for him to roll back Dodd-Frank on his own." However, many Republican lawmakers also support the repeal of the law.

Talbott notes that congressional support for repeal of Dodd-Frank is mixed because the Senate is not expected to have enough votes to support a full legislative repeal. But even if the legislation is not repealed, we can expect to see "adjustments," says Emily Boese, principal at First Annapolis Consulting.

"If Dodd-Frank is fully repealed, that will impact payments companies with respect to the Durbin amendment, as well as other aspects of the law," says Boese. The end of the Durbin amendment would mean new opportunities for repricing transaction fees and/or for impacting transaction routing—a "win for issuers, but likely a loss for acquirers and merchants," says Boese.

But a full repeal is unlikely; if, instead, parts of the law are rolled back, "Durbin is a low priority," and unlikely to be immediately addressed, says Boese.

One aspect of Dodd-Frank that is expected to come



Filling the Supreme Court Vacancy

Another area of government that may have an impact on the payments industry is the judicial branch. President Donald Trump recently named federal appeals court Judge Neil Gorsuch to fill the vacancy that had been open since Antonin Scalia passed away last February. The nomination earned widespread praise from conservatives and criticism from most Democrats.

Gorsuch is not expected to swing the ideological balance of the court, according to *Politico's* Shane Goldmacher. But the movement toward a more conservative Supreme Court could have mixed outcomes for payments companies, says Emily Boese, principal at First Annapolis Consulting. Gorsuch is known for being an "originalist," meaning he tries to interpret the Constitution consistently with the understanding of those who drafted and adopted it.

The effect of Gorsuch's addition to the Supreme Court, if and when he is confirmed, is unknown when it comes to payments, says Boese, because "there is not a lot of information on Gorsuch's business law perspectives as he is not known for writing on those law topics," she says. "He models himself after Scalia and so I don't think the balance of the court will change that much in the near term. The thing about payments is that it is very specific to the case, and that does not always fall around conservative versus liberal leanings."

under fire is the CFPB, which was created by the legislation to impose new regulations on areas such as debt relief and mortgage services. Republicans have criticized CFPB Director Richard Cordray, a Democrat, for pursuing too many costly regulatory policies that have hurt community banks and credit unions. Cordray's appointment does not officially end until July 2018, but some legal and financial analysts believe Trump could withdraw an Obama administration appeal of an October 2016 federal court ruling in which a panel of the Circuit Court of Appeals for the District of Columbia declared unconstitutional the statute limiting a president's authority to remove the CFPB's director. That would leave in place the court's decision—meaning Trump would have the ability to fire Cordray at will. Others believe Trump may fire Cordray “for cause.” Regardless of how and when the CFPB director position is handled, some experts predict the new Congress will change the CFPB's management structure, so that instead of having a single, powerful director, it would operate under a slower-moving commission. ETA supports the concept of

“GIVEN THE PRESSURE THE CFPB, DOJ, AND FTC HAVE PUT ON BANKS AND PROCESSORS OVER THE PAST FEW YEARS, ALLEVIATING SOME OF THAT PRESSURE WILL BENEFIT ISOS AND ACQUIRERS.”

— Greg Cohen, iPayment

checks and balances, and supports adding them to the CFPB by structuring it as a five-person board rather than a single director.

Given the possibilities surrounding the bureau, “there may be lots of fireworks” between the new administration and CFPB, says Talbott. Until any changes are made, “the CFPB should be expected to continue its current trajectory,” he says, noting that the bureau is currently looking at arbitration clauses and more.

Greg Cohen, COO for iPayment and ETA immediate past president, also predicts the new administration may be less constricting for payments companies and believes that changes to Dodd-Frank and/or the CFPB could be a boon to the payments climate. “Given the direction that certain regulatory bodies were headed, and what’s been said by the new administration about the reduction of government, they may pull back the reins on these entities, which could be a positive change for ISOs and acquirers,” says Cohen.

Cohen notes that the Federal Trade Commission (FTC), Department of Justice (DOJ), and CFPB have been a “challenge to navigate” for acquirers and ISOs—so less oversight from these bodies “would be a positive for payments.” He pre-

dicts the new administration may take a “much more conservative” approach to these regulatory entities—which could be a game changer for payments professionals. “It will be much more business friendly,” says Cohen. “Given the pressure the CFPB, DOJ, and FTC have put on banks and processors over the past few years, alleviating some of that pressure will benefit ISOs and acquirers.”

Payments professionals also are waiting to see whether Operation Choke Point will be dismantled, as the initiative has been criticized for intimidating payments processors into dropping legitimate businesses under the guise of protecting consumers against fraud.

If the initiative continues, experts fear that economic consequences will continue and costs could be passed on to consumers—without substantially reducing fraud. The potential shutdown of the program by the new administration could be advantageous to payments processors, businesses that have been identified as “high-risk,” and consumers alike. “Operation Choke Point put significant burden on some acquirers, resulting in everything from operational changes to selling off some portfolios,” says Boese.

While a less suffocating regulatory environment will be helpful to many payments companies, it may come with some challenges of its own, suggests Boese. “Deregulation could be just as challenging as regulation,” she says. “Acquirers and ISOs are businesses serving businesses,” and what benefits some businesses could cause hardships for others.

Renewed Focus on Security

Less regulation across the board does not mean that oversight will be universally abandoned, says Cohen. One field where expanded regulation is possible is the area of cybersecurity. “We may see less oversight from one regulatory body but more from another, depending on the specific subject or area of concern,” he explains. “We may see more aggressive cybersecurity policies, given concerns over hacking and stolen data, and we could be forced to put up even higher walls around payments data,” Cohen says. PCI standards and security walls may be taken to the next level, which would increase costs related to data security.

“The Republicans now control all levers of policy, which in the past has meant less regulation,” says Press. “But they also have traditionally been for enhanced security. So, we may see a lot of balancing” less regulation with more focus on maintaining vigilance regarding cybersecurity.

Press believes both parties in the 115th Congress may advocate for increased attention to technology-related security. “As we’ve seen increasingly sophisticated hacks, aimed at a broader range of targets, and an increasing awareness among legislators of these events, I think we will be seeing an increased focus on cybersecurity,” he says. “The problem is too large for it not to be a policy issue.” Many payments companies may welcome the increased attention, if it does not become unnecessarily burdensome, says Press, who emphasizes the necessity of awareness and vigilance. “We are encouraged by the idea that more attention will be paid to security. As security gets better, fraud goes down.”

Payments professionals should expect to make continued investments around security, but they will see “less government oversight of how and with whom we do business,” predicts Cohen. He notes that the challenge with a less restrictive regulatory

environment is an even greater commitment to self-regulation.

“Data breaches and hacks are nothing new,” says Cohen. “The industry has been self-policing and has been building a solid infrastructure.” Cohen notes that the recent U.S. implementation of EMV and the movement toward tokenization and encryption demonstrate the commitment of the payments industry toward secure payments. Consumers seem to feel strengthened by those measures, says Cohen, given the explosive growth of mobile payments.

Press also believes the industry has been a leader in implementing cybersecurity measures: “I think the payments industry has offered a worthwhile example of security, with creating its own protocols and enforcement mechanisms.” He says, “We’ve seen how compliance really does improve security, and we’ve seen the consequences of failure.”

Government oversight related to cybersecurity could benefit the payments industry, explains Cohen, in the area of data breach rules. These rules currently vary from state to state, causing compliance challenges for those companies that operate across state lines. Having one rule and establishing appropriate federal data security standards for all entities would make it easier for companies to standardize their breach prevention and reporting policies, and enhance overall data security protections, he says.

Immigration Implications

Some payments professionals are wondering how Trump’s stance on immigration might affect payments companies. Companies that employ foreign-born workers, and those that have offshore operations, could face repercussions stemming from tightened immigration policies.

A group of 97 tech firms, including Apple, Facebook, Google, and Square, recently filed a legal brief opposing the administration’s travel ban. And the companies also are concerned over what will happen to the H-1B visa program (i.e., permits issued to employ foreign workers in occupations that require highly specialized knowledge in fields such as science, engineering, and computer programming). Trump administration officials have reportedly drafted a new executive order aimed at overhauling, among other things, the H-1B work visa program, but the order had not come into effect as of press time.

Only 85,000 H-1B visas are issued each year, 20,000 of which are filed under an advanced degree exemption. In 2016, demand for the visas was three times more than the annual limit. While some U.S. employers say these visas are crucial because they allow foreign workers to fill skills gaps in the U.S. workforce, others express concern that foreign workers are being hired to do jobs for less pay than Americans would make for the same jobs.

In early January, Rep. Darrell Issa (R-California) and Rep. Scott Peters (D-California) introduced the Protect and Grow American Jobs Act, which would change eligibility requirements for H-1B visas and limit the outsourcing of jobs. Those payments companies that rely on foreign-born workers as a segment of their workforce will be watching to see how the future of the H-1B visa program unfolds.

What’s more, those U.S.-based payments companies that employ workers on foreign soil also may be affected by Trump’s international policies. “Many acquirers have some offshore operations,” says Boese. “There could be pressure to repatriate

some of these positions.” Under that pressure, how will those acquirers continue to expand internationally? Answers to these questions will only come with time.

Obstacles and Opportunities

With a less burdensome regulatory environment on the horizon, there will likely be more opportunity for payments innovators to experiment with new offerings, and market those products and services to a broader spectrum of merchants and consumers. But change will not happen overnight. Payments companies should proceed with caution in adapting to the new climate, suggests Boese.

“You’re not going to want to make drastic changes to your regulatory department,” says Boese. “We are in a more pro-business administration than we’ve been in the past several years, and the regulations we have will be more business-friendly—but there will still be regulations,” she explains.

Press, too, believes the industry might benefit from a cautious approach: “Payments companies value predictability, so, in the immediate future, there will be a wait-and-see attitude.” He says, “Merchants are still playing catch-up with some of the changes in the industry,” citing EMV, tokenization, and security as recent challenges for merchants. “So, no matter what the payments industry wants to do,” explains Press, “we will be limited by the merchant community’s willingness to take on new burdens—at least until we get through the last round of mandates.”

“No matter what happens, merchants are really in the business of making money, so they are always looking to balance the customer experience with whatever requirements there are,” Press says.


While rolling back restrictive regulations at the federal level will have many advantages, payments companies will continue to contend with state-level oversight that could cause challenges. “Where we will see continued regulatory overhang, and where it might actually get worse, is at the state level,” says Talbott, noting that conditions may be most difficult for companies in Washington, Pennsylvania, New York, and California.


For now, payments professionals are encouraged to reach out to new legislators and explain how their companies contribute to the advancement of the U.S. economy and consumerism. “Educating incoming members of Congress is as important as ever,” says Talbott. For many incoming members of Congress, this is their first exposure to payments. “With lots of new faces in DC, we will need to help them understand payments—and help them shape good policy.”

Ultimately, it is hoped that the new administration creates a policy environment that supports the free flow of capital and ideas, so that innovation can pave the way for a flourishing U.S. economy. “We want to create a positive regulatory environment,” says Talbott, noting that conditions that are favorable to the proliferation of fintech companies lead to more products and greater financial inclusion. The goal is to support the sea change in the payments industry “to make payments fast and more secure for a wider audience,” says Talbott. **TT**

Christine Umbrell is editorial/production associate and contributing writing to Transaction Trends. Reach her at cumbrell@contentcommunicators.com.



Thank you
your Purchase
is Complete. 

Welcome
back, Sarah. 

Payments in the Stores of Tomorrow

How consumers will be shopping in
the not-so-distant future

By Ed McKinley

The store of the future has been a long time coming. More than a decade ago, IBM produced a television commercial that follows a young man with muttonchop sideburns and an indolent expression as he hurries through the aisles of a supermarket, stuffing merchandise into his baggy coat. Everyone in the store, from the butcher to an elderly shopper, glares with disapproval at the suspicious-looking young man on what seem like an obvious shoplifting spree. But as the “suspect” exits the store, a security guard calls him back. “Excuse me, sir,” the guard says. “You forgot your receipt.” Immediately, a voice-over changes the tone of the ad from ominous to optimistic. “Checkout lines—who needs ’em?” asks the disembodied voice. “This is the future of e-business.”

Retailing may now have reached the brink of that long-anticipated future. Amazon, which overtook Walmart in 2015 to become the world’s largest retailer, is poised to invite the general public into its Amazon Go convenience store, which the company has been testing in Seattle. It’s a place where patrons’ cards or accounts are charged automatically when they pick up merchandise and put it into a cart or a bag; they can even stuff items into their tighter, modern-day coats if they choose. If they change their minds and put the product back in place, its price is subtracted. Think of it this way: While a shopper is filling a physical cart, the store’s amalgamation of high-tech gear totes up the purchases in a virtual shopping cart.

In a short, Amazon-produced video about the 1,800-square-foot Amazon Go store, hip-looking young adults navigate the store and make their purchase decisions. A narrator describes the technology that tracks their purchases as an amalgamation of “computer vision, deep learning algorithms, and sensor fusion—much like you’d find in self-driving cars.” The thinking behind the tech? “Four years ago, we started to wonder—what would shopping look like if you could walk into a store, grab what you want, and just go?”

Creating that experience requires what Amazon calls “Just Walk Out Technology,” the video’s narrator says. But the underlying machinery, electronics, and digital wizardry didn’t re-

ally require any technical breakthroughs, according to Dave Marcotte, senior vice president, retail insights, at Kantar Retail, a research, consulting, and technology company. “This is all fairly old technology,” he says of the Amazon Go platform. “Putting it together in a nice package is new. They put a ton of money into the architecture.”

Other retailers are already using similar technology to track inventory, notes Henry Helgeson, ETA CPP, CEO of Cayan, an acquirer and tech company that performs most payment processing functions. “They know where every item is in the store at all times, which is a huge time saving,” compared with manually counting the stock in the middle of the night, he says. High-tech inventory control can also reduce “shrinkage” from theft, observers agree.

But Amazon Go is apparently one of the first applications of the combined technology on the consumer-facing side of store operations, sources say. “When I first heard about Amazon Go, I was like, ‘That’s crazy—that’s the stuff you see in sci-fi movies, and now it’s coming to reality,’” recalls Peggy Bekavac Olson, principal of Strategic Marketing, a payments-oriented marketing firm. “But the crux of the matter is it’s improving the customer experience.”

Cashless Convenience

Besides enhancing the customer experience, the Amazon Go technology also boosts sales by removing the “friction” of handling cash, Marcotte says. That means consumers will buy more in a physical store with automatic payments than they would in a physical store without automatic payments or in an online store, he continues. It’s partly because consumers tend to lose track of how much they’re spending when payments are automatic, he explains. Studies show that consumers who handle the cash and coins needed to pay for their purchases have a good idea of how much they’ve spent over time, he contends.

Consumer budgeting aside, observers don’t expect stores like Amazon Go to begin appearing all over the country anytime soon. “Usually, I’m a big proponent of SMBs [small and medium-sized businesses] being able to adopt technology very quickly,” says Helgeson, “but this is big-retailer technology.” High costs could prevent single-store or small chain operators from adopting the system any time soon, he predicts.

Even if it’s expensive to mimic, the store’s convenience could prove tempting to retailers of all sizes, many of whom are focusing intently on improving the shopper experience. Helgeson cites the example of Drizly, a service that delivers liquor to a customer’s door, sometimes more quickly than a waiter brings a drink to the table in a bar, he says. “It’s part of the Uberization of everything,” he says.

It also appears that eliminating the checkout line in the Amazon Go store falls in line with a trend toward self-service, notes David Riddiford, president of Apriva LLC, a provider of gateways and wireless payments. His company is devoting considerable effort toward enabling companies to accept self-service payments, he says. Younger shoppers prefer to serve themselves without the help of store employees, he suggests.

Meanwhile, in his view, businesses are accelerating their push to eliminate lower-level jobs as cities and states adopt laws and ordinances to raise the minimum wage.

Some might consider Amazon Go—and other Amazon forays into brick-and-mortar retailing, such as the company’s handful of bookstores, pop-up retailing facilities, and drive-up grocers—an admission that the internet cannot meet every need for obtaining merchandise. But Marcotte views the Amazon physical stores as a marketing ploy that obscures Amazon’s true mission of cutting fulfillment time for goods ordered online by creating a physical presence where customers can pick up their purchases. Having brick-and-mortar establishments also helps Amazon with fulfillment in urban areas where it’s risky to leave packages on a doorstep, he notes.

Other retailers could follow that strategy of providing consumers a way to order merchandise online but pick up at a physical location, Marcotte says. Walgreens, he observes, already has the stores and could add the online component. Walmart acquired the algorithm to do the job online, he says.

Besides, Amazon’s physical stores still face daunting competition from established brick-and-mortar competitors that aren’t nearly as weak as news reports have indicated in assessments of the last holiday shopping season, Marcotte contends. Despite the decision to shut down all 250 stores operated by The Limited and the closing of numerous Macy’s and Sears stores, January looked like the typical aftermath of the post-holiday season, he says. Stores usually close that time of year, and it’s a huge country where the number of closings adds up, he notes, adding that “nothing is forever in retail.”

Big Benefit or Big Brother?

Change is coming to retailing as merchants find uses for the location-based technology that seemed so promising just a few years ago, Marcotte says. When the tech was new, retailers had hoped to boost sales by sending electronic coupons to consumers who were near a certain store or near a certain product inside a store. They soon found that consumers didn’t respond as well as anticipated. But stores have since discovered another use for location-based tracking. If a shopper buys something wildly different from his or her usual purchases, then the technology—in the store, on the shelf, or even integrated into the product itself—can take a record of the transaction. That way, even if the shopper pays cash, the retailer or manufacturer can post ads for related goods on the consumer’s home computer screen, Marcotte says.

In another seemingly futuristic development, some stores—including the Container Store—are beginning to equip employees with headsets that can improve customer service, Marcotte says. When a customer approaches the employee to ask a question, for example, the headset picks up a signal from the customer’s smartphone and identifies the customer. It could also work with a voice print instead of a phone. The system can provide the employee with information on the customer’s purchase history that can help answer the question. However, the process strikes some people as invasive, Marcotte cautions.

Omnichannel: A Use Case Now

The future may already have arrived in omnichannel retailing. Take the example of technology that provides golfers with a seamless experience as they pay for a variety of goods and services during an outing on the links.

Twenty years ago, a golfer may have used a credit card to cover the greens fee, but he or she probably relied upon cash for all the other transactions at the course, says David Riddiford, president of Apriva LLC. Now, that card is good at a desktop point of sale in the pro shop, an unattended dispenser for range balls, a mobile device that travels around with the beverage cart, and a vending machine at the turn between the ninth and tenth holes, he notes.

"By being able to put cashless solutions out wherever the customers may need them, it gives the golf course in this example the chance to maximize its revenue," Riddiford observes. "People aren't limited to the \$20 or \$30 they have sitting in their pocket."

Tying together all those payments lends a "unified look" to what golfers see when they visit the course, and it also provides managers of the course with timely reporting of financial information, Riddiford says. "It all connects to our gateway," he says. "It's not three different solutions cobbled together, where maybe they have to wait to the end of the month to see what the beverage cart has done."

The versatility of payment acceptance at the golf course goes beyond simply coordinating transactions in a business that operates both online and in the physical world, Riddiford maintains. "We think a little more broadly than that," he says, noting that his company's experience with gateways, wireless transactions, vending machines, and kiosks helps expedite any type of payment a customer wants to make.

What's happening in payments at the golf course also benefits from the recent explosion in cheap computing—



including advances in hardware, use of the Cloud, and the proliferation of mobile devices, Riddiford continues. Cheap computing gives small and medium-sized retailers the ability to craft their point-of-sale systems for customer outreach, he notes.

"Whatever privacy you thought you had is gone," he insists, "and there's not much reason to believe that it's suddenly going to come back."

For Olson, as a consumer, it's an invasion of privacy that conjures images of Big Brother: "I just don't like the idea of someone watching my every move, knowing every little thing about me, and what I'm doing." That's an issue retailers will have to work on, she suggests.

Another trend in shopping, omnichannel retailing—or unified commerce, as some call it—can make combinations of online and offline shopping seem like a single process to consumers. Some think of omnichannel as already well-established, but it still seems futuristic to other retailers and payments companies, Helgeson says. "A lot of acquirers and ISOs have stayed in a single channel, where they are either

very good at e-commerce and card not present or very good in-store, but very few have a combined platform that works seamlessly across all the channels," he says.

"I'll editorialize a little for a second," Helgeson says. "Our industry is so focused on the payment and the authorization and capture of that money that we forget about the consumer experience and forget about the merchant experience. And the whole world of how consumers shop is changing around us." The payments industry should adjust to how the public is buying, not require the public to buy in ways that fit into the payments system, he declares. That change, he predicts, will usher in a new era of payments. **TT**

Ed McKinley is a contributing writer to Transaction Trends. Reach him at edmckinley773@yahoo.com.

The Internet of Payments

Recent research explains IoT's transformational possibilities for commerce

By Josephine Rossi

Robot vacuums. Smart thermostats. Talking refrigerators. As digital technologies continue to excite investors and pique the interests of consumers, a new research report conducted by IDC Financial Insights and sponsored by ETA and Intel takes a closer look at the Internet of Things specifically and why it's poised to cause a paradigm shift in payments.

IDC defines the Internet of Things as “an aggregation of endpoints—or things—that are uniquely identifiable and communicate over an IP network using some form of automated connectivity, whether locally or globally.” That definition is important from a payments perspective because it includes several key phrases, according to James Wester, research director for IDC and author of the whitepaper. He presented the paper's findings at the ETA Strategic Leadership Forum (SLF) this fall. The first phrase to hone in on is “uniquely identifiable,” which means that any endpoint exists as a distinct entity within a network, and each endpoint is capable of being differentiated on the network. “Automated connectivity” describes how

endpoint communication is managed with minimal input, and “local or global reach” refers to how networks of devices scale based on the needs of the endpoints.

“Where these concepts inform the discussion on payments and the Internet of Things is in emphasizing how varied, complex, and vast the aggregation of endpoints will be,” Wester wrote in the whitepaper. “In addition, the endpoints themselves will have their own identity as well as the ability to initiate actions independently, such as placing orders, sending invoices, and making payments.”

Although the full scope and scale of IoT has not yet been realized, a lot of recognizable use cases exist, such as smart TVs,



connected cars, connected homes, and more. IDC estimates 12.1 billion devices were connected to IoT in 2015, and by 2020, that number is predicted to be 30.3 billion connected devices, sensors, smart appliances, and more. “That means we are almost halfway to this point where we first thought IoT would be taking off,” said Wester during the presentation, “so we are already 40 percent there when we start looking at it from an installed base standpoint.”

Impact on Payments

Currently, 31 percent of the organizations surveyed already have deployed an IoT solution, and 43 percent plan to do so in the next 12 months, according to the research. Total global investment in IoT is expected to reach \$1.5 trillion by 2020. “That’s a very big, eye-popping number, but you have to look at exactly what it means. It’s investment in everything from consumer spending to the foundations, platforms, technology—everything,” said Wester.



Bonus Content: ETA members can download a copy of the whitepaper, “Payments and IoT: Transactions in a World of Connected Devices.” Log into the member portal at <http://bit.ly/1C4oiid>.

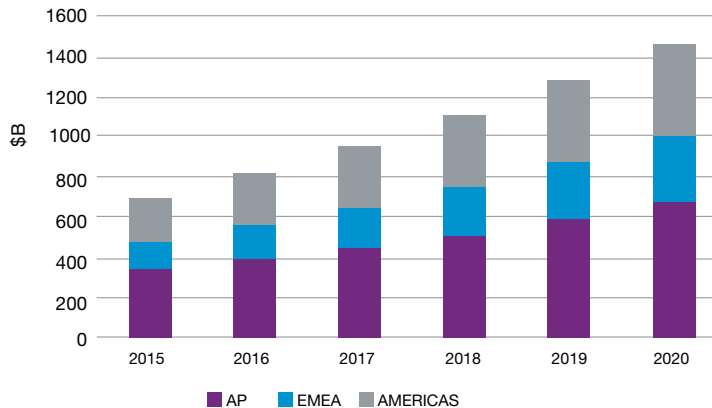
Drilling down specifically for payments, IDC forecasts \$14 billion in payment revenue globally for the same time period. “If that’s revenue that you’re separating, if you’re splitting it up, you can make a tidy living on \$14 billion in revenue. This is not transaction volume, it’s not transaction value—it’s actually revenue.”

It’s also a conservative number, said Wester, because it is based on current adoption rates and use cases, and not future possibilities. “This is the very beginning of what we’re starting to look at from a revenue standpoint,” he said.

At Intel, Michelle Tinsley, director of mobility and payments security in the retail solutions division, is helping to turn those possibilities into realities. She co-presented with Wester at SLF and said the company is using IoT to help automate

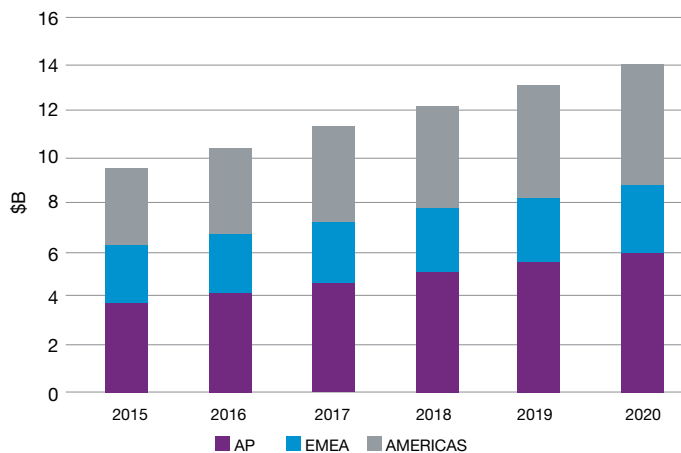
Worldwide IoT Forecast, 2015-2020

IoT will grow to \$1.5T in 2020, a 16.1% CAGR



IoT Payment Forecast, 2015-2020

IoT will offer \$14 billion in payment revenue



Source: IDC, sponsored by ETA and Intel

and lower costs in supply chain logistics and to “recreate the retail experience and merge commerce between online, on mobile, and in store.”

One example is RFID tagging of clothing at Levi’s to improve inventory accuracy. Managers can now track, for instance, how many times a piece of clothing goes into the dressing room. If it is tried on many times but not purchased, it could be defective and should be removed from stock. “If [retailers are] going to start offering new types of fulfillment models like buy online, pick up in-store, they have to have 95 percent or better accuracy,” said Tinsley. “Most retailers are about 65 percent accurate today on their inventory.”

The technology offers considerable operational savings and the ability to focus on revenue gains from keeping hot-selling items in stock. Tinsley cites one retailer that spends

\$200 to \$300 million annually on markdowns to clear out excess inventory.

Another example, which Intel demonstrates in its booth at trade shows, involves using contactless ink on packages so the items can interact with the shelving, showing the retailer what’s there and when items are removed. “It’s turning the product into a smart thing itself versus just being a dumb product hanging on a peg,” said Tinsley. “When we think of Internet of Things, we need to think really broadly, and a lot of times it means connecting some technologies and partners that you may not have worked with before.”

Many future use cases also will involve the automatic movement of money, according to IDC. Current examples include connected cars paying tolls or meters paying utility bills. Across such examples, IDC is forecasting connected devices will initiate more than \$1 trillion in transactions by 2020.

It’s important to point out that these uses may not represent new transactions—a human would still be paying the tolls or utility bills without a connected device. What is new, according to Wester, is that these connected devices have access to payment networks and the ability for payments providers, acquirers, and processors to bundle purchases.

“Where it used to be many, many vendors, where it might have been many acquirers that were actually providing the services, or payment processors that were connecting those previous transactions, now it’s going to be the network,” said Wester. “That network is now going to bundle all of those transactions. You’re actually going to see fewer providers in the background.”

That network also has the potential to displace merchants. “They’re going to be replaced because now a network is going to be going around them, or is going to be controlling both endpoints, maybe even the payment type that’s available,” said Wester.

As with conversations about mobile commerce, ease of use for consumers and vendors and seamless transactions among connected devices are paramount. Equally important will be how the payments ecosystem updates card-based processes and models to validate identity and address risk and security issues.

“In my mind, there is great potential for those companies—maybe on the issuing side, maybe on the financial services side—for somebody to say, ‘We’re going to actually take those talents that we have in protecting your financial life and maybe we wrap a service around that,’” said Wester.

“[IoT is] not just about the transactions,” he added. “Payment is about identity. Payment is about data. Payment is about risk, and I think that there are going to be other use cases and other products besides just transactions that the vendors in the payments space will have a role in.”

Misconceptions and Moving Forward

Both Tinsley and Wester agree that the payments world has been slow to recognize the profound effect IoT can have on businesses.

“Actually, the U.S. is one of the slower growth areas. Asia,

Remember the **Dyn Attack?**

If talk of connected toasters and TVs reminds you of a huge internet outage last fall, you have a good memory.

The October 21 attack against Dyn, a company that controls most of the internet's domain name system infrastructure, has its roots in the Internet of Things (IoT). Perpetrators conducted the largest distributed denial of service (DDoS) attack in history, causing global websites like Twitter, Netflix, and many more to go dark. According to a report

on Dyn's website, a "significant volume of attack traffic originated from Mirai-based botnets," sparking broader conversation about IoT security and vulnerabilities of connected devices.

In its own research on the growth of IoT, Juniper Research reports "the vast scale of this connectivity will, unless action is taken, lead to an unmanageable cybersecurity risk created by botnets in excess of 1 million units." The firm says botnets will be used for more malicious

purposes in the future, too.

"Attacks such as those on Dyn last October can be viewed as proof of concepts," said Steffen Sorrell, research author, in a press statement. "In the medium-term, botnets will be used far more creatively—not only to disrupt services, but also to create a distraction enabling multi-pronged attacks aimed at data theft or physical asset disruption."

Juniper researchers say that security will affect adoption of IoT. Knowledgeable consumers are already skeptical, given media reports, says the firm. Further, addressing security problems will raise the cost of IoT devices, creating another barrier to ubiquity.

"The onus on improving consumer IoT security is very much on larger players, where consumer trust in IoT units has been eroded over the years," says the report. "It will only be these larger players that have the ability to fund ongoing software security support, while the success of their IoT efforts will galvanize (or not) other vendors to focus on the impact of cybersecurity in the consumer IoT."



for instance, because there's so much growth happening there, it's almost easier to adopt some of these IoT use cases straight into what we call greenfield," said Tinsley. "We see a lot of smart city activity coming from the Middle East and Asia, really innovative, new banking types of things coming out of Indonesia... they're jumping the shark. They're going straight to value-added use cases."

Another misconception, according to Tinsley, is that IoT is prohibitively expensive. As a result, Intel is seeing retailers that are putting off the investment or implementing a modular approach. "It's our job to come back and talk about how quickly some of these investments can pay back," she said. "Correcting your inventory distortion problems could have a very real impact on the current year financials just by implementing some simple technologies. We're also trying to broach the misconceptions about the cost of deploying some of these things, because the costs have really come down."

Wester and Tinsley also agree that the payments community needs to realize a sense of urgency if it wants to take advantage of IoT. IDC predicts that requirements for payments systems will scale quickly, and far fewer providers will

be needed to initiate transactions via connected devices. The network of providers responsible for connecting the devices also will decide payment methods and routing.

It's time to start planning now, according to Tinsley. She advises adding IoT to strategic planning for three to five years. "Start to make it part of the day job," she said, "because otherwise just pontificating or wondering about it, you could again be one of those that has their lunches handed to them."

Wester likens the IoT phenomenon to the advent of e-commerce. When merchants wanted to be able to sell merchandise on the internet, a lot of acquirers, processors, and banks pushed back because they didn't know how to apply risk models to a card-not-present environment. However, the companies that moved forward to figure it out benefited. "I think that there is going to be room for companies in this space to do that same thing with the Internet of Things," he said. "But if you want to be one of those companies, get on that now, because we are a lot further along than you think." **TT**

Josephine Rossi is editor of Transaction Trends. Reach her at jrossi@contentcommunicators.com.

those member channels—as well as from the card networks—to provide a thorough and comprehensive document that offers relevant guidance from each network’s perspective.

In short, the guidelines offer effective tools for protecting consumers, submerchants, and, as a result, the broader card acceptance ecosystem. Through their use, ETA members help foster an environment that can support and sustain further growth of the payment facilitator market.

Areas of Focus

As a stand-alone document, *Payment Facilitator Guidelines* covers so many relevant matters related to risk management, underwriting, and compliance that it provides the necessary tools needed by payment facilitators to effectively succeed in developing a robust underwriting and risk management program. While the guidelines do not address all possible risk mitigation practices to be considered, they do represent a significant step toward established benchmarks that can enable the development of reasonable risk management practices.

The following list reviews some of the notable points raised in the *Payment Facilitator Guidelines*:

- The guidelines offer details that align with the flow of the risk life cycle for payment facilitators to manage the transaction and risk life cycle for submerchants. Beginning with the necessary steps to ensure adequate underwriting for submerchants’ accounts—along with recommended activities, such as noting that submerchants have acceptable credit or bank card processing histories—

accompanied by an understanding of how submerchants are selling or distributing their products and services, the guidelines will aid to support underwriting objectives.

- The guidelines suggest standards that should be adhered to as part of underwriting efforts. Included are matters such as defining reasonable time frames for underwriting based on an assessment of submerchant type and risk evaluation. Additionally, periodic reporting of exceptions to policy should be considered. There may also be a need to define submerchants that pose greater risk for payment facilitators and, as such, should be approached with additional care and may warrant specialized expertise or steps to further monitor activity and control risk.
- Because payment facilitators often support submerchants in the e-commerce world, the guidelines provide extensive details with respect to internet submerchants and the card-not-present space and necessary steps for underwriting due diligence.
- Apart from the necessary elements of underwriting, payment facilitators would greatly benefit in developing a program to ensure comprehensive submerchant risk management. The guidelines suggest useful standards tools and strategies to support establishment of an effective and successful submerchants risk monitoring management program. Recommendations are proposed to suggest reasonable time frames, when adverse actions may be needed, and how best to determine circumstances where escalated approval may be called for. Further, the guidelines offer suggestions for

tools and strategies to be incorporated for daily exception monitoring, as well as propose guidance for submerchant account changes.

Given the significance of chargebacks, the guidelines provide significant instruction concerning chargeback reporting thresholds and overall management reporting. In addition, the guidelines focus on effective tools and strategies to guide review and action related to chargeback exceptions.

This list is by no means exhaustive of the topics covered in the guidelines, but it does highlight a few of the focus areas and shows how the guidelines support an effective risk program for payment facilitators.

What the Future Holds

The *ETA Payment Facilitator Guidelines* present new entrants into the payments ecosystem with the key components necessary to incorporate risk management and compliance practices. As the sales channel continues to transform—and ISVs, payment facilitators, and new startups enter the payments space—this document provides the essential elements to further continued market growth, while reducing risk in the system. The guidelines are intended to be a living document, and, as such, ETA will revise them regularly to ensure that they reflect, consider, and address the latest changes within the card acceptance ecosystem that might impact payment facilitators. **TT**

Amy Zirkle is director of industry affairs for ETA. Reach her at azirkle@electran.org.

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Julie Conroy



Julie Conroy is research director for Aite Group's retail banking practice and covers fraud, data security, anti-money laundering, and compliance issues. Her team's 10 predictions for 2017 forecast data analytics as the key differentiator in retail payments. Here, she offers insights on how it will shape the global marketplace.

The following has been edited for length and clarity. A fuller edited version of the discussion is available on the Transaction Trends website: <http://bit.ly/1XYuin2>.

Why is machine learning so crucial for the future of consumer engagement?

I think there are a couple of things that it's providing opportunities to do. One is to better enable banks and merchants to be where the customer needs them to be, when they need them to be there, and, in some cases, anticipate what the customer needs before the customer even knows that they need it. That's really where so much of the marketing analytics that we've been seeing to date has fallen short.

Some merchants are much better at this than others, and I would call out Target and Amazon as some of the leaders in this space right now, but very few others can even begin to approach what they're doing.

Is that a resource issue?

Some cases, it's a resource issue; some cases, it's a breadth and depth of data issue. Those are two merchants that have an enormous breadth and depth of data because they interact with so many consumers. With Target, and its Red Card, they've breached that veil of anonymity at the point of sale for a good chunk of their consumers, which is one of the major challenges of many physical-world merchants—you don't know who that customer is until they're at the checkout, and you really can't engage with them to increase basket size. But again, with Cartwheel and with the Red Card, Target knows who you are, and they know what you like to buy, so

that gives them a big leg up. Amazon has [become] the go-to merchant for so many of us in the card-not-present world. They understand who we are and what we like to buy, and that helps them do a much better job of suggesting other things that we could engage with them on.

Why is it so much harder to use predictive analytics in fraud prevention?

If you look at analytics being used for marketing, you're looking at an historical data set and predicting future behavior based on it. You can do a decent job with that approach, because the future behavior is probably going to resemble that of historical behavior. But in the case of fraud, you've actually got bad guys that are actively changing their behaviors to elude your analytics. So they're actively working against you, which means that the analytics technique needs to be dynamic to keep up with the dynamic nature of what [you're] trying to detect.

Data storage is so much cheaper now, and processing speed is so much faster that we can actually apply the data, the predictive analytics, to a much broader pool of data than we ever have before. I'm talking to some folks that quite literally are evolving models on a weekly basis to keep pace with fraud.

How do false positives fit into the conversation about model speed?

So false positives really are the bane of the

existence of the merchants I talk to because at the end of the day, that means that you're insulting a customer and turning down a transaction—so both ways, bad for revenue. That really is the product of the fact that we have been supplementing our analytics with layers of rules. I don't think we're at the point where we're ready to just put rules by the wayside yet, but [the rapid evolution of analytics] helps to provide much more accurate targeting of good behavior versus bad behavior, so that you're not having those false positive declines and souring that customer relationship.

Any advice for those who don't have the resources to be investing in AI at this level?

Look to your partners. As I talk to many of the acquirers and some of the PSPs in this space, they are looking at how they can either partner with the payment networks to provide some of this type of data and scoring to their merchant customers, or in some cases, develop it themselves. Especially on the fraud side of things, I see a lot of acquirers making some of their own investments in this space. But they recognize that the smaller merchants aren't going to have the appetite to go hire a bunch of data scientists. So it's the acquirers' and processors' job to give them better tools, better scores that help them compete on a level playing field with the big guys. **TT**

—Josephine Rossi

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