September/October 2018

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The Official Publication of the Electronic Transactions Association Vol. 23 | No. 5

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Transaction Trends (ISSN 1939-1595) is the official publication, published six times annually, of the Electronic Transactions Association, 1620 L Street NW, Suite 1020, Washington, DC 20036; 800/695-5509 or 202/828-2635; 202/828-2639 fax. POSTMASTER: **Send address changes to the address noted above.**

@ETA

'Tech-ification' of Payments Grows

In early September 2014, Chief Executive Officer Tim Cook announced that Apple, one of the most innovative consumer electronics companies in the world, was launching a payments product. Apple Pay was not the first mobile wallet, or contactless payments solution, to come to market. Nor was it the last: Samsung Pay and Google Pay each unveiled mobile wallet innovations the following year. The introduction of these mobile wallets is an early example of what I believe is one of the most important trends that is defining our industry—the "tech-ification" of payments.

It's easy to wax poetic about Silicon Valley giants, mobile wallets, and smartphones, but the effect is tangible. Software and hardware revolutions—whether from technology companies, a payments processor, or a fintech startup—have evolved payments from a single product (plastic card, magnetic stripe acceptance) to an innovation revolution.

Take the POS device as an example. Long the conduit through which transactions flow, the terminals of today are high-tech instruments compared to those of the past. Merchants expect these devices to deliver powerful data at an affordable price, and they are increasingly interested in adding them to their countertops. ETA's "Payments Trends to Watch" report projects that merchants will spend $1.7 billion on POS devices in each of the next two years. And for the software that powers them, merchants will spend $2.2 billion this year, and $2.4 billion next year alone.

These sophisticated solutions, driven to market in many cases by forward-thinking acquirers, processors, and ISOs, save merchants substantial time and money. According to data from Visa, modern digital payments acceptance costs 57 percent less than other payment types like cash and checks for small and medium-sized businesses. They've also inspired a wave of industry partnerships and acquisitions—over 100 deals totaling $40 billion so far this year. (Read more about M&A activity in our cover story on page 12.)

This industry shift toward tech-driven hardware and software products has shaped ETA as an organization. Since 2014, ETA has expanded its membership to include a wide array of innovative companies, including payment facilitators (PFs), independent software vendors (ISVs), value-added resellers (VARs), Silicon Valley tech companies, and plenty of new startups. In fact, 41 payments technology startups, many of them ISVs and PFs, joined ETA in 2018, taking advantage of our new discounted membership program to get connected in the payments industry. At TRANSACT, software companies and startups flourished in our Startup and Next-Gen Payments zones on the show floor. Plus, we've launched a Self-Regulation Program and new educational products for payments technology companies designed with modern software partnerships and products in mind. (Read more about our certification on page 10.)

At this month's Strategic Leadership Forum—the premier event for the payments industry's top leaders—we will hear from leaders at firms such as Worldpay, Fiserv, Samsung, Visa, BlueSnap, GTCR, and others about how this ever-changing, tech-driven new environment is shaping and growing the next era of payments technology. In November, we will be in the heart of San Francisco to continue the conversation with some of payments' most revolutionary leaders at TRANSACT Tech San Francisco. Wherever we are, ETA will continue to ensure that the tech-forward solutions our members bring to market are the cornerstone of our mission to grow the payments industry.

Jason Oxman
CEO
Electronic Transactions Association

Banks To Lose Payments Revenue Dominance

After years of fending off fast-growing fintechs and other nonbanks for payments share and revenues, banks will soon lose their dominance in the race for revenue, according to research recently released by Accenture Payments.

In 2017, U.S. banks claimed $163 billion of revenue, with nonbanks netting $136 billion—a 45 percent share of revenue—last year. According to Accenture, trajectories of current trends indicate that incremental revenues will accrue primarily to nonbanks over the next two years, benefiting both already established nonbank players and new businesses. The research projects that, by 2020, the nonbank revenue share will increase to $177 billion, compared to $167 billion for banks, marking the first time banks slip below 50 percent of the share.

Accenture forecasts the scales will tip in nonbanks' favor as banks gain $15 billion in revenue but lose nearly $12 billion to pricing pressure and business taken over by new payment players, such as fintech, "bigtech" (Amazon, Apple, Google, and other big technology firms), and other third parties phasing into the market. Nonbanks are expected to experience pricing pressure as well, in the range of around $27 billion. But Accenture predicts they will generate about $69 billion of new business—enough to counter the losses caused by lower pricing.

Whether banks or nonbanks rule the revenue realm will depend on factors besides payments, such as artificial intelligence, blockchain, cross-border transactions, major geopolitical movements, open banking, privacy, regulation, and security. However, Accenture predicts the key to winning the majority share will be staying relevant by focusing on the customer journey, deploying technology quickly and efficiently, and monetizing technologies.

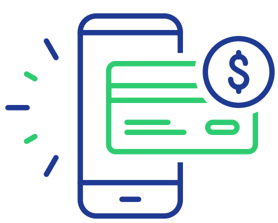
Fast Fact

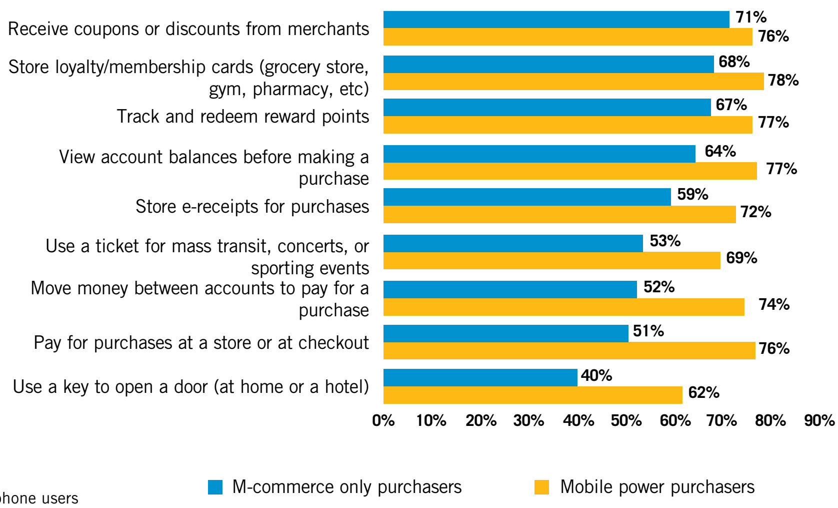
"Women and men in financial services begin their careers at parity, making up roughly equal portions of entry-level staff, but higher up the ladder, women account for only 19 percent of positions in the C-suite. This is slightly lower than the 22 percent average for U.S. women overall."

Source: "Closing the Gap," McKinsey & Company, September 2018

Infographic

Top [Mobile] Wallet Features





Source: Javelin Strategy & Research, 2018

Note: "M-commerce-only purchasers" are "smartphone users who have made a mobile browser or app purchase but have not made an in-store mobile purchase."

Mobile Merchant Transactions in Emerging Markets To More Than Double by 2023

Use of mobile devices to make retail and store payments will propel financial inclusion in emerging markets, according to a new study from Juniper Research. The firm predicted that mobile merchant transactions conducted by the unbanked will increase from 1.8 billion to 3.8 billion over the next five years.

Kenya and India will be "core incubator markets for merchant services," said a press release on the study. "Safaricom's Lipa Na M-PESA product already has over 100,000 merchants enrolled, and by 2023, merchant payment transactions in the Middle East [and] Africa alone will surpass $16 billion per annum."

PeopleImages/Getty Images

The firm cited Mastercard's QR code-based solution as a "key innovator" in the space. "Previously merchant payments relied upon SMS to facilitate transactions, with customers texting a code to initiate payment; thus the process was slow and inefficient," said research author Lauren Foye in the release. "With QR code solutions, shoppers simply scan a merchant code to rapidly initiate the payment process."

To drive further engagement and make digital transactions more accessible, Juniper recommended solution providers offer value-added services, such as microloans and analytical tools, along with SMS-based marketing services.

"Juniper cautions that tariff rates must remain low, citing the fact that Lipa Na M-PESA was obliged to impose a 50 percent reduction in fees last year, both to address customer indifference and ward off competition," the release stated.

Moves & Mergers

Beyond, a payments company started in 2017, announced its acquisition of **Boosterville**, a platform that connects merchants and nonprofits, for an undisclosed amount. The platform, which has been rebranded as **Chip-In**, will offer a fundraising tool to facilitate digital donations.

Clearent Software Holdings, a subsidiary of payments solutions provider **Clearent**, announced it has completed the purchase of **Compassmax**, a Maine-based developer of comprehensive dry-cleaning point-of-sale software. The deal marks Clearent's second acquisition in the dry-cleaning space, following the company's purchase of Utah-based SPOT Business Systems earlier this year.

Payment gateway provider **Transax** has been acquired by payment processing technology company **Pineapple Payments** for undisclosed terms.

Digital Payments Increase Across All Generations

Age is but a number when it comes to using digital peer-to-peer (P2P) payments, according to a study recently released by Early Warning Services.

The "Digital Payments Adoption Study" surveyed more than 9,000 American consumers between the ages of 18 and 65 who are aware of P2P, own smartphones, and have used online or mobile banking, to determine consumer attitudes, adoption, and use of digital payments.

The study found that, across generations, digital payment adoption and use is high. Consumers cited trust in their financial institutions and trust in their family and friends as the top reasons they use digital payments, with baby boomers ranking trust in financial institutions as their primary influence to use digital payments, and millennials and Generation Xers naming recommendations from friends, family, or peers.

Not surprisingly, the survey showed that millennials are most likely to engage in digital payments, with more than 75 percent of millennial respondents saying they have used online or mobile P2P payments. However, they are followed closely by Generation X (69 percent) and baby boomers (51 percent).

Survey results suggest that consumers who use P2P payments use them routinely, with 49 percent of millennials responding that they use P2P payment services at least once a week, followed by 42 percent of Generation Xers and 32 percent of boomers.

The survey findings also indicated that consumers value payment services that they believe are secure and easy to use. Out of 13 features, boomers ranked security as the most important feature of a P2P service, while Gen X and millennials placed it third and fifth, respectively. Ease of use also is important, with consumers across generations pointing to difficulty accessing their financial information online outside of their financial institutions' platforms as one of the most significant barriers to using digital payment services.

Falling Victim to Internet Attack Only Takes a Minute, Report Finds

ivanmollov/Getty Images

Every minute on the internet brings thousands of cyber attacks and staggering financial losses, according to a new report from cybersecurity company RiskIQ.

Tapping into proprietary and third-party research to analyze the ever-increasing volume of malicious activity on the internet, RiskIQ's "Evil Internet Minute" examines the cyber threats facing internet users and breaks down, by the minute, the cost and regularity of cyber attacks.

The data shows that, in a single minute on the internet, 1,861 people fall victim to some sort of cyber attack, and $1,138,888 is lost to cybercrime. Despite the fact that businesses spend up to $171,233 a minute on information security, their digital assets continue to suffer attacks on a massive scale—enduring strikes from malware, malvertising, phishing efforts, and other cyber threats. Every 60 seconds, 1.5 organizations fall victim to ransomware at an average cost of $15,221. In addition, each minute on the internet brings 1,274 new variants of malware, 22.9 phishing email attacks, and 5,518 records leaked in publicly disclosed incidents.

The report reveals that these incidents of cyber attack, which have gotten worse since last year, cost businesses $600 billion each year, with ransomware in particular draining $8 billion per year—more than $15,000 per minute.

In addition, the data shows that each minute generated 0.17 blacklisted mobile apps, 0.21 new phishing domains, 9.2 malvertising incidents, 0.07 incidents of the Magecart credit card skimmer, 0.1 new sites running the CoinHive cryptocurrency mining script, and four potentially vulnerable web components.

According to RiskIQ, "When brands understand what they look like from the outside-in, they can begin developing a digital threat management strategy that allows them to discover everything associated with their organization on the internet, both legitimate and malicious, and monitor it for potentially devastating cyber attacks. However, bringing the massive scope of an organization's attack surface into focus is no easy task."

On September 5, ETA hosted its annual **Fly-In on Capitol Hill**. Nearly 70 executives from ETA member companies descended upon Washington, D.C., to advocate before members of Congress, their staff, federal regulators, and the White House.

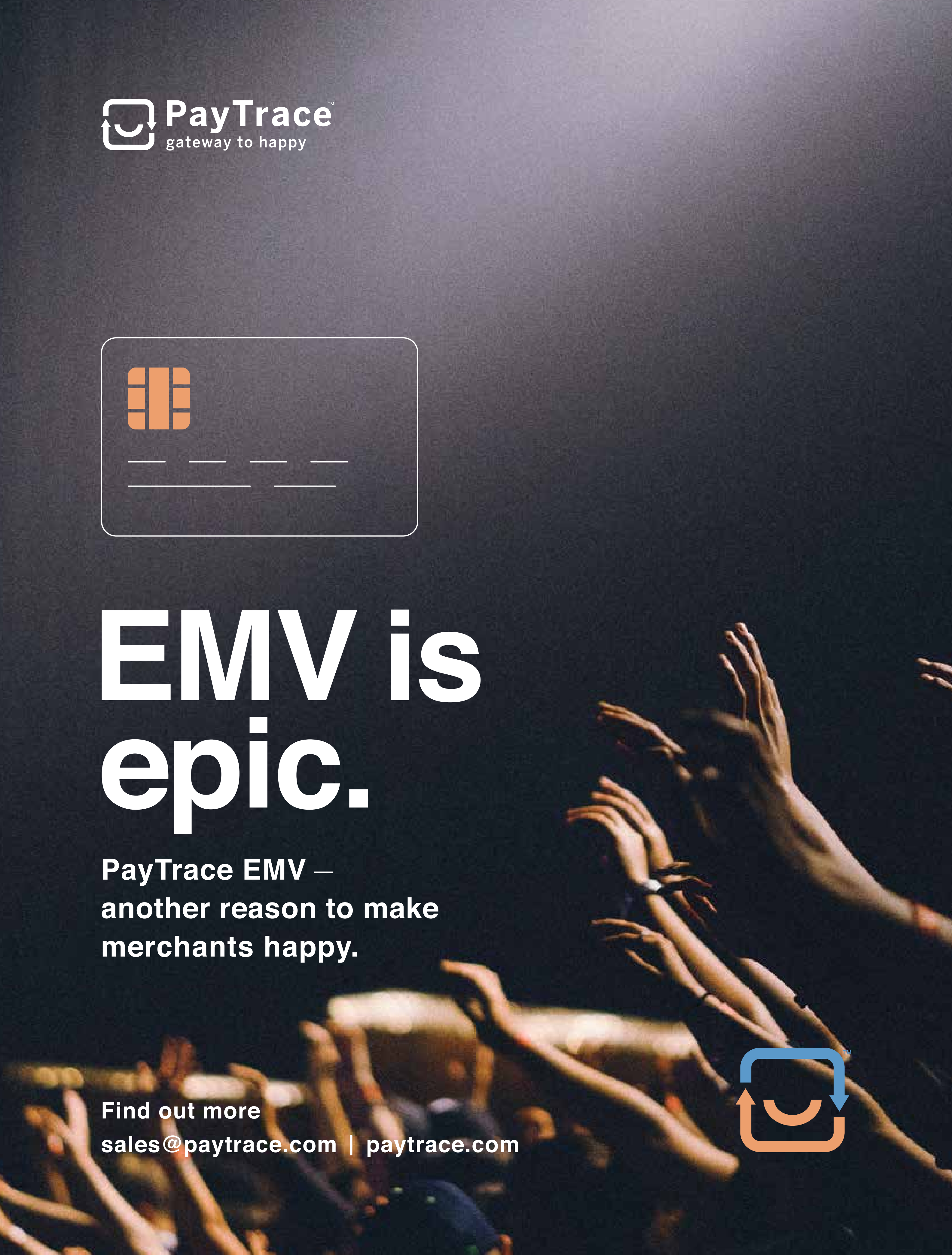
Participants conducted nearly 50 meetings during this year's event. Member company executives met with the following members or their staff: Rep. Blaine Luetkemeyer (R-Missouri), Rep. Randy Hultgren (R-Illinois), House Majority Whip Steve Scalise (R-Louisiana), Rep. David Scott (D-Georgia), Sen. Johnny Isakson (R-Georgia), Sen. Mike Rounds (R-South Dakota), Sen. Mark Warner (D-Virginia), and Sen. Joe Donnelley (D-Indiana). On the regulatory side, participants met with staff from the White House, Bureau of Consumer Financial Protection, Department of the Treasury, Office of the Comptroller of the Currency, and the Conference of State Bank Supervisors.

Policy issues discussed included establishing a national data breach notification bill and the STATES Act, a bipartisan, bicameral bill to permit national banks to serve cannabis businesses in states that have made it legal. Notably, two days after ETA's Fly-In, Luetkemeyer introduced the Consumer Information Notification Requirement Act, which would establish a national data breach notification standard for banks. ETA supports this legislation as part of a broader push and commends Chairman Luetkemeyer on his leadership.

On September 6, ETA hosted its annual **FinTech Policy Forum/TRANSACT Tech DC** at Google's office in Washington, D.C. This event brought together ETA members with federal, state, and international policymakers to discuss the intersection of financial technology and public policy. Topics discussed included the latest in payments technology; international payments; the convergence of traditional players in financial services and new entrants; how the Federal Trade Commission views fintech; artificial intelligence; and more. Rep. Tom Graves (R-Georgia) kicked off the event with a keynote address in which he discussed the importance of fintech to Georgia. Former industry executive Rep. Mike Bishop (R-Michigan) discussed how fintech is changing the U.S. Internal Revenue Service. Finally, Rep. Hultgren, co-chair of the Congressional Fintech and Payments Caucus, closed the event with a speech in which he emphasized his belief in and commitment to fintech, covered the congressional landscape for the remainder of the year, and provided an update on recent activity in the House Committee on Financial Services and the Congressional Fintech and Payments Caucus.

The audience included Hill and regulatory staff, law enforcement, think thanks, academia, lawyers, trade associations, lobbyists, and the media.

1. ETA members gather at the annual Fly-In on Capitol Hill. 2. Fly-In attendees walk the halls of Congress. 3. Vikram Venu, consumer payments products ops lead at Google (left), and Usman Ahmad, head of global public policy at PayPal (right), discuss the international payments landscape. 4. Rep. Graves gives an opening keynote on how Congress views fintech. 5. More than 200 people attended the event held at Google DC. 6. Chris Massey, head of public policy at Square (left), and Kathryn Petralia, president of Kabbage (right), discuss fintech, credit, and the economy.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Expansion Into Canada

ETA encourages collaborative, technology-neutral fintech policymaking

By Scott Talbott

The wave of fintech innovations has drawn interest in the payments ecosystem from policymakers across the globe. The expansion of ETA's advocacy work in Canada comes at a time when the country's policymakers are taking steps to reevaluate and update the framework of laws and regulations that govern the Canadian payments ecosystem.

A New Retail Payments Oversight Framework

For example, the Department of Finance Canada's "A New Retail Payments Oversight Framework: A Consultation Paper" recommends new regulations for new fintech entrants into retail payments in Canada. The recommendations include disclosures and registration requirements for retail payment service providers (PSPs), requirements for PSPs to place consumer funds held overnight or longer into a trust account at a financial institution, rules that ensure payors would not be liable for unauthorized transactions unless they did so fraudulently, and mandatory dispute resolution processes internally and externally.

ETA recommends that any new regulations be tailored to the risk profile of the entity and harmonized with existing government and industry regulations. For example, the consultation paper imposes new registration requirements on PSPs. ETA recommends an exception for entities that are already registered with the payment card networks, to cut down on burdensome and unnecessary administrative processes. We also recommend that policymakers consider an alternative approach to end-user safeguarding by implementing a materiality threshold, below which funds would not be to be held in trust accounts. We strongly support processes and procedures that protect consumers from theft and fraud; we support the department's proposal that a payor would not be liable for unauthorized transactions except for under certain circumstances. Further, we believe that self-regulation is a better solution when it comes to dispute resolution. ETA also recommends that the framework should preserve the flexibility of PSPs to implement programs that fit each unique organization. These suggested changes would offer greater flexibility to payments technology companies while still ensuring safety in the ecosystem.

Payments Modernization State Document

Payments Canada's "Modernization Target State" document outlines the organization's vision for modernization and the introduction of a real-time rail platform. Such a capability is a powerful platform for innovation in the Canadian payments ecosystem, and, as operator of the system, Payments Canada will set the rules framework for access, pricing, and development.

ETA and its members fully support a modernized payments system that will result in increased competition and financial inclusion while also ensuring safety and soundness.

Fintech players will be key to leveraging this new platform to its fullest potential. ETA recommends that Payments Canada ensures that the eligibility criteria are not overly restrictive or cumbersome, as that would negatively affect the ability of new fintechs to enter the marketplace and might depress competition. Similarly, much consideration must be given to the cost of participation to ensure that fintech participants using the platform are on equal footing. It is important, ETA believes, that direct and indirect costs for a fintech's access to the platform be structured in a manner that avoids creating strategic disadvantage to those players. With such a potentially important platform being discussed for the Canadian marketplace, it is important to think about it in such a way that includes and encourages fintech innovation.

Next Era of Payments Technology Policy

Broadly speaking, ETA urges policymakers to remain forward-thinking, carefully crafting policy that is technology-neutral, device-agnostic, and done in collaboration with industry participants to create a policy environment that encourages continued innovation. Policymakers can encourage increased access and benefits to consumers without disrupting or burdening well-worn, efficient models. Collaboration at all levels will enable a clear and unified approach on issues surrounding risk, innovation, and competition. Take a principles- and risk-based approach, we recommend, with form and function in mind rather than strict rules and outcomes. Harmonize where possible, especially across geographic boundaries to help fintechs scale without the burden of redundant or conflicting policy.

The work to engage public policy in Canada and advocate for these principles and others that strengthen Canadian fintech policy is led by a committee of ETA member companies, including Moneris, First Data, Worldpay, Intuit, Western Union, Pivotal Payments, Paysafe, Square, and Blake, Cassels, & Graydon.

Fintech innovation is bringing the next era of payments technology to the global marketplace. ETA, as the voice of the payments industry, will continue to advocate in Canada, the United States, and across the world to support policies that promote its growth. ***TT***

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

ETA Education Update

Announcing new programs designed for a diverse and growing ecosystem

By Amy Zirkle

For most Americans, dipping a chip card at their local coffee shop, or paying for a rideshare, or ordering something online, or sending money to friends via a peer-to-peer (P2P) service, isn't a particularly complicated task.

For a payments technology professional—an ISO sales executive, a software engineer, a financial services expert, an executive at an acquirer—these activities can quickly become a dive into the arcane. After all, the ins and outs, ups and downs of the ecosystem that powers these everyday activities for millions of Americans are complex, esoteric, even abstract.

With so many brilliant, powerful solutions coming to the marketplace through ETA members like integrated POS hardware manufacturers, independent software vendors, value-added resellers, payment facilitators, and others, the tent that houses the payments ecosystem is getting wider, and inevitably, more elaborate.

ETA's Certified Payments Professional (ETA CPP) program—the flagship professional certification for payments pro-

damircudic/Getty Images

fessionals—has long been the educational standard for keeping those in the industry at the cutting edge. ETA complements the ETA CPP certification course with other certificate programs, webinars, and introductory courses through our ETA University program, continuing education panels and courses at ETA events and payments events across the country, and other opportunities. Across channels and throughout the year, our educational programs are designed for all levels of experience and exposure to payments technology. They offer new entrants to payments and seasoned pros alike insights that make the enigmatic actionable.

New Programs and Changes on the Horizon

ETA is launching three brand new certificate courses that focus on new products and services in the payments environment. The new courses are available entirely online, 24/7, to maximize convenience and accessibility.

Risk and the underwriting process are two of the most pivotal topics of which payments professionals must have a strong understanding. ETA is excited to bring to market new online courses based on the ETA "Guidelines on Merchant and ISO Underwriting and Risk Monitoring" to demonstrate understanding of best practices in these spaces. Designed for those in the sales channel and acquiring spaces, these courses offer a holistic look at modern underwriting structures that consider industry disruption and leading-edge technology.

A third new course—Payment Facilitator Introduction to Electronic Payments and Risk Management—widens the scope of ETA's educational focus into the nascent software and payment facilitator markets. This course was designed from the ground up to empower new entrants in the software and payment facilitators marketplaces with a functional and practical foundation of payments issues.

In addition, to expand and make simpler the ETA CPP exam preparation process, the association developed and launched a completely online prep course earlier this summer. The prep course is comprehensive, accessible from anywhere, and designed to efficiently prepare a pupil for ETA certification. But whether you're a prospective ETA CPP, looking to learn more about the payments industry, or just looking to brush up on the details, the new online course offers a simple, easy, and cost-effective way to do so.

Across the breadth of our educational products, ETA is always evaluating where we can make changes to reflect the ways the industry has evolved. For example, we updated 15 percent of the ETA CPP course and exam materials to reflect current industry trends this year alone. And, looking forward to 2019 and beyond, we anticipate some major changes to our ETA CPP and ETA University programs to widen the scope of our offerings and explore new, emerging areas of payments technology.

As the payments ecosystem grows, and the demands of ETA member companies and their employees keep pace with industry change, ETA will continue to provide comprehensive and leading-edge payments education to industry stakeholders at all levels. ***TT***

Amy Zirkle is vice president of industry affairs at ETA. Reach her at azirkle@electran.org.

WIN TRUST & EARN BUSINESS

with the NEW ETA Self-Regulation Program (ETA SRP)

For ISOs, Payment Facilitators and acquirers, reputation is paramount to success. To earn business with acquirers and processors, you have to prove deep understanding of the risks associated with financial services and commitment to best practices.

ETA has developed an all-new, customized certification, ETA Self-Regulation Program (ETA SRP), to help you demonstrate reliability and industry acumen to potential customers and partners. This corporate self-attestation program is designed to be the benchmark of industry integrity. Earning the ETA SRP for your company is simple: apply, provide basic due diligence materials, and attest to ETA that you have adopted and are utilizing either the *ETA's Guidelines on Merchant and ISO Underwriting and Risk Monitoring* or the *ETA Payment Facilitator Guidelines*.

ETA will vet participants and verify your standing. The names of all certified companies will be both published and presented to regulators as trusted, ETA SRP participants. You'll also earn an ETA SRP seal to add to your website and to use in promotional materials, indicating to the marketplace that your company adheres to the highest industry standards.

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Don't miss this opportunity to stand out as a trusted player in payments, backed by the ETA Self-Regulation Program.

Priced at just $500 through December 31, 2018, the ETA SRP certification is an investment you can't afford to miss!

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Strategic Maneuvers

Payments companies ramp up M&A activities, seeking to offer integrated and updated services

By Christine Umbrell

peshkov/Getty Images

Keeping track of all of the mergers and acquisitions (M&A) activity occurring within the payments space can be a challenge. While M&A in payments has traditionally been cyclical, "it does feel like we are in the more active part of the cycle," says Jared Isaacman, CEO of Shift4 Payments LLC.

The frenetic pace can be attributed, in part, to strategic decisions by payments companies to add products or services to position their organizations for the future. "A simplistic way of characterizing the M&A transactions in 2018 would be to say that there has been a lot of consolidation," says Isaacman. "If you look under the hood of each of these acquisitions, though, there is a lot more nuance to it than one big company acquiring another. In most cases, these transactions are strategic in nature and embarked on with the intent of being able to deliver more value at a lower price point as a combined organization."

The payments M&A "feels more active" right now, agrees Dan Rosen, general partner, Commerce Ventures. "The traditional acquisitions of the past have been very much about adding more processing volume, from either existing segments or by expanding into a new area—maybe more card-not-present, maybe smaller merchants, maybe integrated payments—those are generally the areas you've seen M&A historically," says Rosen. "I think we're starting to see more interest in acquiring businesses that have truly new capabilities to bring to the table."

Many companies are buying smaller organizations with a goal of expanding into new channels, delivering new technologies, or exploring new segments, says Greg Cohen, president of Paya and a past president of ETA. This type of organic expansion typically takes a long time and involves a significant amount of risk, according to Cohen.

"So, what we're seeing—especially with companies that are being bought at premiums—are businesses that service segments or deliver technology that really prepare the acquiring organizations to do battle in the future. They're acquiring assets that will be very valuable as the industry changes," says Cohen. For that reason, "you see high valuations around companies that have streamlined boarding processes." Other companies are seeking to create new modes of connectivity with a future proof gateway, such as TSYS buying Cayan, he says. "You see a lot of the activities around segments or verticals that a business doesn't currently have."

Favorable market conditions also help decision-making, according to Cohen. "In a market where debt is very cheap, and companies are looking to grow into higher-growth areas, you're seeing a frenzy of M&A activity."

More Thoughtful Consolidation

Peter Michaud, director of project management for The Strawhecker Group, notes a transition from last year—when a lot of the bigger payment companies, such as First Data, TSYS, and Vantiv (now Worldpay), entered back into the acquisition market—to this year, with many current acquisitions involving some smaller players and strategic product acquisition purchases. In particular, he notes TSYS's acquisition of iMobile3, a Florida-based company that provides private-label, small business solutions and technology services within the payments industry. "And even with TSYS's purchase of Cayan [completed in January], the value was in the products and platform in addition to the portfolio," he says.

Chase Merchant Services acquired WePay in December with the goal of bringing integrated payments to software vendors and resellers. Acquiring WePay "was a key part of our strategy to better serve small and middle market clients," says Kimberly Fitzsimmons, head of merchant services, large corporate sales, at JPMorgan Chase. "We wanted to simplify the process of setting up payments from the get-go, so when a customer is ready to choose the right software to manage their online business, they don't have to think about making a new system work with it since it is all integrated [and] they can be up and running almost immediately," she explains.

Rosen describes PayPal's recent M&A activities as strategic maneuvers to position the company into different segments of the market. "In the last quarter, they made three acquisitions, for a variety of different reasons," he says. PayPal recently bought fintech companies iZettle, a European startup that sells mobile credit card readers and related payment processing, and Hyperwallet, a company that connects cash networks, card schemes, and mobile money services with domestic ACH networks around the world. It also recently purchased Jetlore, a machine learning technology startup, and Simility, a fraud prevention company.

> "WE'RE STARTING TO SEE MORE INTEREST IN ACQUIRING BUSINESSES THAT HAVE **TRULY NEW CAPABILITIES** TO BRING TO THE TABLE."
>
> —DAN ROSEN, COMMERCE VENTURES

Isaacman, who previously founded and served as CEO of Harbortouch, was involved in several strategic acquisitions this year to create Shift4 Payments. "When [Harbortouch] had the opportunity to acquire three outstanding POS brands—POSiTouch, Restaurant Manager, and Future POS—and a payment gateway, Shift4—each with a large and loyal installed base of customers—it made a lot of sense," he says. Once the transition was complete, the company rebranded as Shift4 Payments. "One piece that they were each missing was the concept of truly integrating their software with payment processing. ... We believed that by combining these great software products with seamless payment processing, we could deliver a significantly better customer experience at a much lower cost," Isaacman explains.

Beyond strategic acquisitions, Cohen notes that some companies are purchasing simply to grow in scale. "At the end of the day, a lot of the acquirers, in the back office, basically do the same thing," he explains. "We board merchants, we take risks, [and] we have call centers and service departments, so you see acquisitions to drive scale, too." He points to Paysafe's June acquisition of iPayment, a provider of payment and processing solutions for small- and medium-sized businesses (SMBs), and First Data's acquisition of BluePay, a technology-enabled payment processor, as examples. "Another example of that would be Global Payments buying Heartland Payments Systems [in 2016] or WorldPay and Vantiv coming together."

Even with these scale-type acquisitions, Cohen notes that companies are looking at what segments they can bring into the business that don't currently exist. For example, he says the Vantiv/WorldPay merger gave Vantiv a global e-commerce platform from which to work. And when Global bought Heartland, "it gave them a whole laundry list of software and new segments ... that Global had not traditionally been in" within the United States.

> "CHALLENGES ARE PRESENTED WHEN COMPANIES FEEL THAT THEY HAVE TO BE ENGAGED IN TRANSACTIONS **SIMPLY TO STAY RELEVANT,** AS OPPOSED TO FOR REAL STRATEGIC VALUE."
>
> —JARED ISAACMAN, SHIFT4 PAYMENTS

"And then you see a lot of M&A continuing around segments—business lines—that [companies] are not currently in," says Cohen. He points to Global's acquisition of several software companies as helping to position Global as a software business "as much as it is a payments business," he says.

All of these moves culminate in a payments space that is moving beyond business-as-usual and toward planning well in advance of market changes. "Companies are going out to buy a new product, or a new distribution route, that hasn't traditionally been their business model," Michaud says, and are seeking to expand their market presence and offer more solutions to their existing customers. "They're getting into a position to expand."

PE Newcomers

Another trend contributing to today's increased M&A activity is newfound interest from private equity (PE) investors, according to Cohen and Michaud. "Now we have ISOs that probably never thought about selling before, realizing that it's a seller's market out there, and they're taking advantage of it," says Michaud. "The influx of private equity capital has been very interesting over the past 12 months."

PE investors have been not only seeking new acquisition targets but also trying to monetize the payment part of existing investments, according to Michaud. "They're starting to put a value on the payments component, whereas before they would be focused on the software."

In fact, Michaud believes all of the recent high-profile M&A activity in the payments space has shone a spotlight on the industry and piqued the interest of PE firms. "The heightened increase of acquisitions that happened ... over the last two years really opened people's eyes to this market that may or may not have been in it before," he says. Payments outsiders "are asking, 'Why is Vantiv buying WorldPay for $10 billion? Why is First Data spending $1.5 billion on acquisitions? Why is TSYS spending $1 billion on an acquisition?' When you get to those numbers, that's going to open a lot of people's eyes," he says. "Now, anyone with a private investment portfolio is looking to monetize payments."

Cohen cites an increase in "sponsor-backed" M&As. He points to the example of private equity firm GTCR buying payment processor Sage Payment Solutions, which is now Paya. "And you see Pivotal, with a new private equity owner." The public markets, according to Cohen, have also been very receptive to increased M&A activity.

Michaud sees the new focus on the payments space by private equity firms as a positive for the payments industry. "When capital comes in, that's always a good thing. When you look at companies like Adyen or Square ... you can see how much impact they've had on the market." Investments give companies capital to grow and try to be innovative, he says, "because now you can explore new ideas and expand on them, and you have a lot of leeway to do it."

Realignment Obstacles

When two companies come together after a merger or acquisition, it can be a challenge to integrate them—but it's an important area of focus.

Done correctly, the result of a merger or acquisition should mean more services at the same or lower cost, says Isaacman. "Challenges are presented when companies feel that they have to be engaged in transactions simply to stay relevant, as opposed to for real strategic value," he explains. "This becomes a major concern when companies are more focused on acquiring growth than developing their internal strategy." He notes that Shift4's acquisitions have been successful "because they complement strategy that we have been executing on for over a decade, as opposed to alter it."

"When you do get the opportunity to acquire a great business, focusing on alignment postacquisition is as important as purchase price," says Isaacman. "It is critical that your new colleagues understand the common objective and are as passionate in the pursuit of it as you are. This can be difficult, especially for legacy management teams who have a history of operating their own way, so having those conversations before signing helps alleviate potential for conflict."

Patience is necessary, says Michaud. He believes it takes three to five years once a company is acquired to align company cultures—to determine how they will fit together, how the reporting structure is going to work, and how they will approach the market.

Rosen notes that when large companies acquire small companies, realizing all of the intended benefits can often be a challenge. What makes a small company successful is very different than what makes a large company successful. "It can be easy to starve the acquired company of the resources required to be successful and continue to grow within the larger organization," says Rosen. "What happens more often is that the organizational culture of the larger company ends up pervading the company that gets acquired—and if that's a good thing, then it's a successful acquisition."

Logistics also can be problematic after an acquisition. Cohen points to employee dislocation, as well as customer dislocation, during the synergies process of an acquisition. "But everyone tries to watch out for how to manage that to the best of their abilities," he says.

In some cases, companies choose to forgo integration and allow an acquired company to maintain some autonomy. "For example, when First Data acquired Clover, it kept it completely separate and maintained the independent culture and nimble approach of not being part of the mothership," says Rosen. "But most [purchasers] don't do that."

In the case of mergers, combining resources can be advantageous to both entities, if they are careful in how they align. For example, with the WorldPay/Vantiv merger, "they are complementary in the sense that there are capabilities and strengths that each organization brings to the table that are additive to the other organization," says Rosen. "It's an interesting combination of two businesses that both had reasonably strong positions in different areas."

Navigating the Future

Payments professionals should understand that M&A can be an important tool for growth, but it's necessary to proceed with caution, fully informed about future trends. The traditional payments model is evolving toward omnichannel, with integrated, technology-driven, and cloud-based solutions, says Michaud. "It's becoming a different environment from payment processing in the previous decade." He encourages payments professionals to be forward-thinking and consider where the payments space will be in five or 10 years. "This is a great opportunity to go forward and seek that investment capital and build those solutions," Michaud says.

Technology and distribution go together to create opportunities to monetize businesses, says Cohen. "Technology either supports scale or supports distribution. To have scale in any segment today, you have to have a technology differentiator," he says. "That is very different than 10 years ago, where people monetized their business by reselling terminals or solutions of that sort. Today, technology is a true differentiator in many segments." He points to what First Data has been able to do with its purchase of mobile payments startup Clover, or what Square has accomplished in the retail SMB market. "Other technologies have helped people in different verticals. Adyen is a perfect example of how it's helped grow a global e-commerce business. They would not be doing as well in those channels were it not for technology."

For the time being, the payments industry is a very positive space, with both economic conditions and the popularity of payments foretelling continued M&A activity. "Capital isn't an issue right now—and that's always been the hardest thing when you're trying to innovate," says Michaud.

"I'd expect to see the M&A activity continue," predicts Cohen. "At some point, the market has to correct a little bit—we've been on a 10-year run—but there is nothing in the short term to slow down M&A," he says. "The big payments companies need to keep buying, building incremental scale, and moving into different channels. They will continue to acquire assets they don't currently have—to do battle against the new guys." They need to adapt to compete against companies like Adyen, Stripe, and Square, he says: "It would take a company a long time to build that, or get in a vertical they want to be in, so they go buy it."

Rosen believes there is much more room for companies to partner and merge to support technological needs. "There is an enormous need for more software and technology to support next-generation offerings in the payments space," he says. There is an accelerating transition to digital, and an increasing focus on the value around the transaction, according to Rosen. "So, we think there will be more of those types of enablement opportunities, and more M&A for the large players, which want to have critical capabilities in-house as competitive differentiation." The focus will be primarily around software, but also include specific capabilities like fraud prevention, loyalty, or e-commerce integration.

Rosen says opportunities also exist around niche or specialized processing. "You might see very specific specialties, like nonprofit or educational payment acceptance, or specialization around health-care payments—that sort of specialization will end up becoming increasingly important."

Regarding the influx of private equity money into the payments industry, Michaud believes the trend will continue. "Nothing is recession-proof—but payments companies actually did very well and were highly profitable" during the Great Recession 10 years ago, he says. "The payments industry has been very resilient even in down economic times, as its growth comes from various places—including increased acceptance on the merchant side, increased card usage on the consumer side, as well as secular economic trends like inflation." And there are still areas to be explored and expanded upon, and the possibility for companies to expand into new markets, so "even if the economy were to suffer in some form, payments would still be a very reasonable investment going forward." ***TT***

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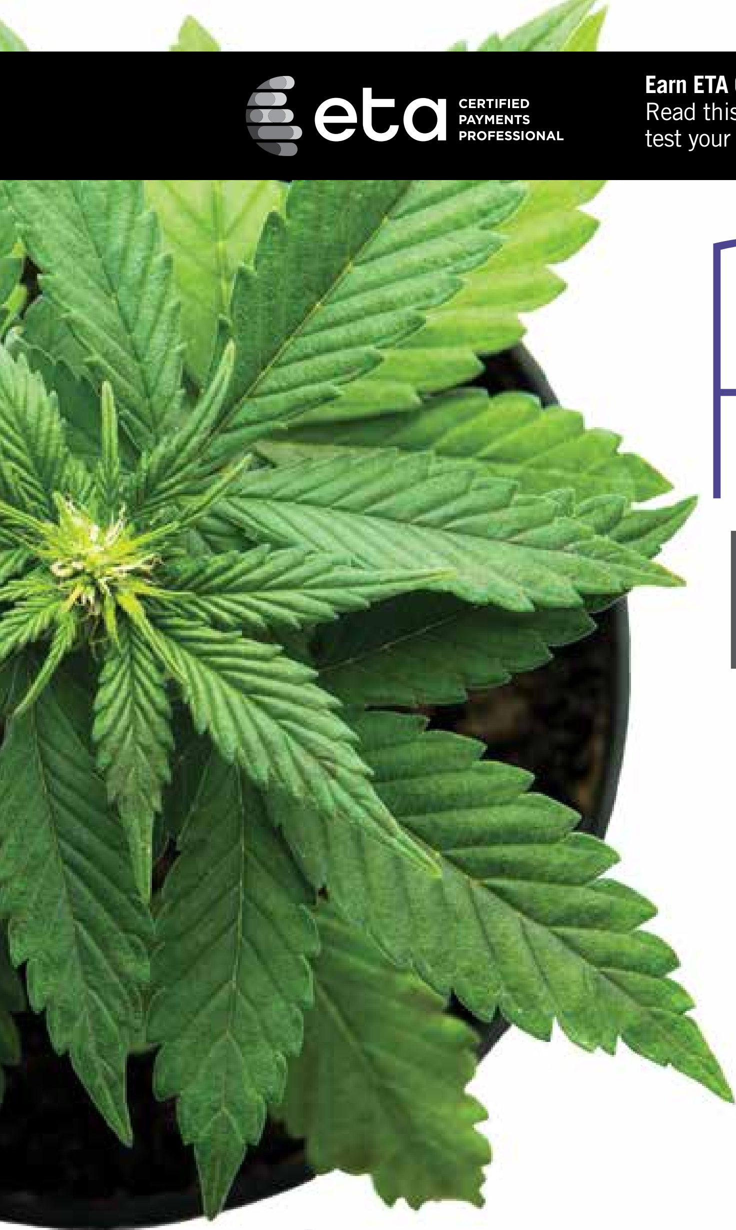

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RISKY Business

Exploring the current and future market potential of the gaming and cannabis verticals

By Michael Coleman

Gambling and legal cannabis sales—two of the fastest growing but most controversial business sectors in the United States—are evolving to confront ongoing challenges in processing payments. Federal court decisions and new state-level legislative initiatives have brightened the electronic payment horizon for online gambling and sports betting, but cannabis remains a mostly cash-only business deprived of legitimacy and legality by the federal government.

Heather Altepeter, ETA CPP, CEO of National Merchants Association (NMA), works on behalf of both online and brick-and-mortar merchants of all kinds and also specializes in high-risk merchant acquiring. Although NMA doesn't have an official position on the gaming or cannabis markets, Altepeter says the opportunities for business growth in both are robust. But she also cautions anyone exchanging money in either sector to follow the letter of the law or risk possible legal disaster.

"Make sure you're doing it legitimately," she says, adding that merchants and processors should ensure they are not skirting regulations or laws governing the industries. "Do it the right way even if it's the hard way."

Paysafe, a multinational payments solutions company, has been involved in the online gambling payment realm for more than a decade. It provides "core processing business" for regulated gaming operators in Europe and around the world, and increasingly in the still nascent U.S. online sports gaming business, according to Neil Erlick, executive vice president of business development. The British company says it racked combined transactional volume of $56 billion USD in 2017, and Erlick says that Paysafe counts online gambling and gaming among its most promising growth industries, although he did not offer specific financial estimates.

"As it relates specifically to gaming in the United States, we think there is massive potential," Erlick says. "We see this not only as a strategic opportunity but a larger business opportunity for Paysafe."

The U.S. Supreme Court's decision to overturn the 26-year-old Professional and Amateur Sports Protection Act (PASPA) in May was a crucial development for the future of online gambling. The court declared the federal ban on sports betting unconstitutional, which dramatically changed the landscape for legal betting. It is now up to the states whether to allow its residents to bet on sports.

So far, online sports betting is lawful only in Nevada, Oregon, Delaware, and Montana. But a 2018 report from Eilers & Krejcik Gaming, a market research firm, predicted that 14 states, including New Jersey, Pennsylvania, Mississippi, Michigan, and Connecticut, will legalize online sports gambling within two years. That could mean a huge tax windfall for cash-strapped state governments and a revenue boom for payments professionals now able to get a legal cut of the action.

Erlick predicts that banks and credit card companies will be much more willing to get into the sports betting game following the Supreme Court's PASPA decision. "I think you will continue to see an increase in acceptance rates, which is another way of saying that the issuing banks will start approving more transactions," he says. "What you've seen in the last year or so is some of the banks—some of our partners—working very closely with all of the credit card brands and working with Visa and Mastercard and Discover to actually come up with new [merchant category codes (MCCs)] specifically designed for the different areas of gaming."

Joe Pappano, senior vice president of gaming at Worldpay, says that over the past several years, "we saw the convergence of two high-growth, highly complex industries—the payments and the gaming industries."

The opening of new payment and transaction fronts has fueled the growth of sports betting, online gaming, and cashless lottery payments, says Pappano. And that wouldn't be possible if it weren't for the strict controls placed on the payment process by the banks, credit card companies, and the payment industry itself.

"Gaming has historically been a very cash-oriented business and now [with the growth of cashless payments] having the appropriate governance and velocity controls becomes incredibly important," Pappano says. "Payments are driving that."

Worldpay executives detected a tectonic shift in the gambling payments horizon more than a decade ago and began meeting with credit card companies, issuing banks, gambling companies, online platform providers, and others to help them understand what was possible—and legal.

"We've really worked to put together a framework that shows the permissibility of the activities within a jurisdiction and to validate that it's a lawful activity," Pappano explains.

A crucial part of that was convincing the credit card associations to create new MCCs to separate licensed gambling institutions from unlicensed ones. Previously, any gambling-related transaction was coded 7995, which often led banks to reject any transaction under this code, regardless of its legitimacy.

Now, MCC 7800 is used for government-run online lotteries; 7802 indicates regulated online casinos; 7802 reflects regulated events for online dog and horse racing; and so forth. The codes give processors assurance that they won't run afoul of the law, especially the still-in-force Unlawful Internet Gambling Enforcement Act of 2006.

Today, some sort of gaming exists in 44 states, including state lotteries and both tribal and commercial gambling. Banks and credit card companies are increasingly responding in-kind.

"Many issuers are now understanding that this is good, permissible activity and that controls are in place," says Pappano, referring especially to what he says have been highly effective antifraud measures put in place by the industry. "We are starting to see a number of issuers start to open up and modify their real-time decisioning tools to allow these transactions to be accepted. Predominantly, everyone seems to be focused on consumer debit cards, and then, obviously, you are also seeing a broader rollout of credit card acceptance."

The American Gaming Association estimated the market size for sports wagering in the U.S. was $150 billion for gross gaming revenues in 2017.

"This is demonstrated by the rise of alternative payment methods, including voucher-based systems and digital wallets, which are convenient, enable instant transfers to gamers' accounts, and access to a much larger consumer base," Pappano says.

But as Erlick cautions, "these new payment solutions are not without their challenges." The gaming sector is highly regulated and scrutinized, so the introduction and integration of alternative payment methods takes time, especially as regulations vary significantly across geographical borders.

"I think you'll see acceptance rates go up, and more people will be able to use their credit cards," he predicts. Until that happens, he advises payments professionals to encourage their merchant clients to offer a variety of payment options—including cash-based solutions—to consumers. "We believe that no valid customer should be turned away."

Cannabis Compliance

While the gambling sector's payment and processing options are expanding under landmark court decisions; updated, industry-friendly legislation; and widespread public acceptance, the still-emerging legal cannabis industry continues to struggle to move

Guidance for High-Risk Work

In 2014, an ETA working group developed "Guidelines on Merchant and ISO Underwriting and Risk Monitoring" to help the payments community prevent undesirable merchants from entering or remaining in the card acceptance ecosystem. The guidelines serve as industry best practices and have become vital to ensuring the most rigorous efforts around underwriting and risk monitoring for merchants and ISOs.

Since the whitepaper's debut, ETA's Risk, Fraud, and Security Council released two updated versions to keep pace with that fast-moving evolution. The new guidelines represent one of the many tools the industry uses to combat fraud and give policymakers peace of mind that the industry is proactive in protecting consumers and the payments industry. Dozens of ETA member companies participated in the revision process to address topics including high risk, where cannabis and gaming merchants would be classified.

Similarly, in 2016, ETA rolled out the "Payment Facilitator Guidelines," which offer best practices to provide guidance to these new entrants as they navigate the complex payments landscape. The document includes guidance for underwriting submerchant accounts; enhanced underwriting due diligence for submerchants; guidelines for risk management of submerchant accounts; and risk management guidance for submerchants requiring enhanced due diligence.

Both documents are available to ETA members by visiting www.electran.org/member-only-content.

its payment options into the mainstream. It remains illegal for cannabis dispensaries to accept credit or debit cards under federal law—even in states where sale of the plant is legal.

Cannabis is still classified as a Schedule 1 drug in the United States by the Controlled Substance Act. But it's medically legal in 29 states and recreationally legal in eight. Canada legalized cannabis in June, and the entire country will soon allow the sale of the drug for medicinal and recreational purposes.

However, major credit card companies such as Visa, Mastercard, and American Express continue to reject PIN debit or credit card transactions in both the United States and Canada. So, the cannabis industry—awash in billions of dollars of cash—is desperately seeking workarounds.

The most common payment innovation in cannabis dispensaries is a cashless ATM, which works just like a debit card transaction from the consumer's perspective but is recorded as a cash transaction by the merchant. Customers make a transaction at the ATM in the dispensary, which prints out a receipt for the approved transaction. The buyer then presents the receipt to the cashier, who processes the purchase and provides the customer with change if the purchase amount is less than the amount withdrawn from the ATM. The transaction at the ATM is passed from the customer's bank account to the merchant's bank account via ACH transfers.

"Even though it's a growing industry, cannabis is limited because certain states will have nothing to do with it, and the transactions can't cross state lines under federal law," explains Dan Hoff, CEO of Painless Processing, a California-based company that specializes in high-risk merchant transactions, including e-cigarettes, bill collection, firearms, and other retail fields.

Because of the tortured payment environment confronting cannabis merchants, a new class of payments professionals has stepped up to help—and profit. For example, PayQwick, a processor for the cannabis industry, advises its clients to follow the letter of the law, first and foremost.

"The key to compliance is really making sure that every dollar you take in comes from a state-legal sale of cannabis," says PayQwick CEO Ken Berke. "Then there are a lot of layers to the onion beneath that."

PayQwick has expanded beyond the cashless ATM concept and now offers an alternative payment service on the business-to-business transaction side.

"The cultivator harvests their cannabis, and they make a shipment to a dispensary," Berke explains. "Typically, the dispensary has been paying cash. In our platform, the dispensary logs into their bank account either on their computer, smartphone, or tablet, then it selects the name of the cultivator from a drop-down list on the computer. They put in the manifest or invoice number, the amount of payment, the cell phone number of the driver, and it's sent. And then that payment is instantly transferred from the dispensary PayQwick account to the cultivators or growers.

"It's exactly how you buy something on eBay using PayPal; we just set up our own platform," says Berke. And the service isn't just for straight cannabis purchases. Vendors can use the service to pay rent, lawyers, insurance companies, or other bills.

PayQwick also facilitates massive cash payments and deploys armored trucks and accounting services to pick up cash from vendors, verify the amounts, and deposit it in banks.

Some in the cannabis industry are accepting credit cards but almost always under murky legal circumstances. One rapidly growing cannabis vendor told *Transaction Trends* that their business accepts credit card payments but classifies them under a legitimate merchant code unrelated to marijuana. That vendor declined to speak on the record for fear of catching the attention of authorities.

Berke and Altepeter say that merchant is playing with fire.

"There is a huge risk to anyone who has got a miscoded credit card account because you can get put onto a match list or merchant file, and it's basically a blackball list [by the credit card companies] and you'll never get a merchant code again," Berke explains.

Darren White, a former sheriff in Albuquerque, New Mexico, now runs the Purlife medical marijuana dispensary, which does about $6 million in annual sales. He says President Donald Trump's appointment of Jeff Sessions as attorney general, and Sessions' openly hostile stance toward legal marijuana, has made credit card companies and banks that were already wary of the marijuana industry even more reluctant to enter the fray. He also suggests the cash-only nature of the business perpetuates negative attitudes about cannabis despite its legalization.

"When you have to tell a customer that you can't accept a credit card because the federal government is uptight about cannabis, it absolutely, without question, contributes to the stigma," White says. "Attitudes have changed dramatically in the last 10 years, but because of the way Washington is still handling it, the stigma remains."

To that end, White and others in the cannabis industry are closely tracking the Strengthening the 10th Amendment Through Entrusting States (STATES) Act on Capitol Hill. If approved by Congress and signed into law by the president, the bill would amend the Controlled Substances Act to exempt the manufacture, production, possession, distribution, dispensation, administration, or delivery of marijuana. The legislation, which has bipartisan support, would resolve the conflict between state and federal laws to allow cannabis companies access to the financial system in states that have legalized it. It also would protect payment processors by clearly stating that compliant transactions are not trafficking.

Altepeter says her message to lawmakers on Capitol Hill is that cannabis legalization is coming, it's just a matter of when. And it makes sense to prepare for the additional commerce that will follow.

"This is like prohibition of old, we all know what happens in the end," she says. "Certain states have already decriminalized it. It's coming, and we can't just put our heads in the sand. If we don't give [the cannabis industry] an opportunity to be able to transact appropriately, then we do put them at risk for doing illegal or criminal acts. They will have to, or they are putting themselves in danger by having loads of cash around. It's not a good environment.

"Plus, we need trackability," Altepeter adds. "We need checks and balances." ***TT***

Michael Coleman is a contributing writer to Transaction Trends.

Evaluating the State of Distributed Ledger Technology

Two leading experts share their takes on what's realistically next for digital currencies

By Alicia Roisman-Ismach

Digital currencies are making waves, but will Bitcoin (BTC) and its crypto-brethren ever replace the payments system as we know it? For Ari Juels and Ittay Eyal, co-director and associate director, respectively, of the Initiative for CryptoCurrencies and Contracts (IC3), cryptocurrencies and the distributed ledger technology that underpins them face several substantial limitations before they can reach mainstream adoption. But the IC3 is working hard to address them and usher in the next generation of distributed ledger technology. *Transaction Trends* asked them to share some of their observations.

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What needs to happen to reduce the volatility of BTC and other currencies?

Ari Juels: I don't know about BTC. It has several forms of built-in instability. Its abhorrent and unsustainable guzzling of electricity is one. Economist Alex de Vries estimates that Bitcoin mining will consume 7.7 gigawatts (GW) by the end of 2018. Fractious governance is another. Poor scaling is yet another, and I'm not optimistic about payment channels and other scaling solutions. So, it's hard for me to see volatility subside much.

Ittay Eyal: There are some obvious necessary (though probably not sufficient) elements:

- The market size becomes sufficiently large to make manipulation too expensive.
- The currency continues working consistently, without bugs, and through difficult governance events. This would demonstrate the stability of the infrastructure.
- Adoption reaches a stable point. Once it takes a stable share of payment markets, or even just investments, exchange rate growth could calm.

When do you think the general population will own cryptocurrencies?

Eyal: Once they are reliably available from trusted sources, which could be banks or even convenience stores selling cryptocurrency gift cards. But this is just ownership. Once ownership becomes easy and the exchange rate stabilizes, then it will be much easier to adopt for actual payments, and beyond.

Juels: I prefer to keep hoping it won't. Well-vetted, institutionally custodied tokens and cryptocurrencies might find a place in investment portfolios, and it wouldn't surprise me to see that happen in the next five years. But then the cryptocurrency dream of true decentralization will essentially be toothless.

What key technical milestones would have to occur in order for digital currency to replace traditional currency/payments?

Juels: In a sense, it already has [replaced traditional currency]. Most currency has been dematerialized. If you mean blockchain-based currency, I think that the active embrace of governments will be necessary, and that will be a quagmire. While conceived by libertarians, cryptocurrency can alternatively be a powerful tool of repression in the hands of governments. Without careful and intentional safeguards for user privacy, it can enable pervasive and automatic surveillance of monetary transactions.

Eyal: Current digital currency systems face several technical limitations that prevent them from being able to handle some significant portion of the world's payments. The following questions are under intensive study by the research and development communities.

- Scalability: Our work (dubbed Bitcoin-NG, or Next Generation, though it's a general construction not just for Bitcoin) showed that the blockchain protocol need not limit throughput. However, the question of how to shard the blockchain (without reducing security) such that it can scale beyond the capacity of a single machine remains open.
- Proof-of-Work (PoW): The environmental impact of PoW mining is problematic. The most advanced alternative, proof-of-stake (PoS), works under significantly stronger assumptions. (PoS assumes the majority of nodes in a network are altruistic, whereas PoW assumes all nodes are rational.)

- Client security: The mechanisms for securing client keys are insufficient. This applies both to individuals storing their personal funds and to companies storing more significant amounts.

Juels: The IC3 Grand Challenges, for the most part, reflect a consensus among our faculty on the major technical obstacles the community will need to overcome for blockchains to see wide and fruitful deployment.

Scaling is attracting the most attention. Additionally, it's relatively easy to achieve if you're willing to weaken the strong trust model embodied in fully permissionless systems, and move toward more centralization, which I think is appropriate in many settings.

Our sixth and newest challenge—"Sound Migration"—represents a problem that one of our industry colleagues (Amber Baldet, then of JPMorgan Chase) sensitized us to. It may well be the most important, because without accommodating legacy systems, blockchains are going to be very slow to emerge. This is something we failed to appreciate but definitely do now. It's insights like these that reflect the value IC3's industry partners bring to our research agenda, and IC3 more generally. We can't simply jettison existing systems and start from scratch. Legacy-system integration is hard but necessary.

Is there a tradeoff between transparency and confidentiality in cryptocurrencies and distributed ledgers? How do you strike a balance? And how do you protect user privacy?

Eyal: Indeed, there is a tough tradeoff, with different entities expecting very different properties. Between law enforcement bodies that would probably opt for complete transparency and individuals that would keep their privacy, there are entities such as banks and insurance companies that might want something in between. In practice, I believe a lot of the cryptocurrencies will still be stored in banks, so the situation would not be too far from what we have today—for better or worse.

Juels: There's a strong tension between the two. Striking a balance isn't easy. There are some settings in which cryptography, and zero-knowledge proofs and/or secure multiparty computation, are helpful, but they are only practical in niche settings. This is why I'm more bullish on trusted hardware, for all its failings (which are not inconsiderable).

Aside from payments, where might there be some applications for blockchain within the financial space?

Eyal: The programmatic nature of blockchains allows for going beyond payments to achieve more elaborate constructs. This includes limited-trust escrow and custody services, atomic swap mechanisms and other financial tools, but also games and prediction markets. Using oracles—which are systems for relaying off-chain, real-world data onto the blockchain in a trustworthy way—can allow for additional services relating to external data such as financial information or insurance events. But serious usage still seems a bit further down the road due to the volatile exchange rate of cryptocurrencies.

Juels: Smart contracts enable the creation of a whole range of financial instruments, from automated versions of existing instruments to wholly new ones. Token mania has already demonstrated the sea change that this technology can precipitate.

"Smart contracts" are only as good as the information they have. How can we set up data pipelines to verify the information that goes into smart contracts?

Juels: We've had an oracle called Town Crier [www.town-crier.org] running in Ethereum for over a year. The tamperproof nature of the hardware allows data to be transmitted faithfully from websites to blockchains and can also provide confidentiality for queries. Oracles themselves can also be decentralized along several dimensions, which can enhance trust.

Eyal: There are already solutions utilizing trusted hardware (like Town Crier) and game-theoretical constructions that motivate participants to enter accurate data into the blockchain (like Schelling).

What do you want businesses, and specifically payments companies, to know about distributed ledgers (DLs)? What should they consider before adopting them?

Juels: Blockchain technology may prove most valuable as a catalyst for the rediscovery of extremely powerful, but underappreciated, technologies and disciplines, like applied cryptography, fault-tolerant systems, high-assurance software engineering, and more.

DLs are not magic pixie dust. They solve some problems, but they are being hyped as solutions to challenges they cannot resolve on their own. It's important for those contemplating adoption to obtain objective insight into the technology landscape and the promises of cutting-edge research. ***TT***

Alicia Roisman-Ismach is vice president of product and marketing at Amaryllis Payment Solutions and a member of the ETA Technology Committee.

Defining Value

Understanding appraisals and M&A activity in the payments industry

By Brandes Elitch

The payments industry moves quickly—and it's easy to fall behind if you don't keep up with new technology and customer demand. There is a lot of excitement around mergers and acquisitions (M&As) in the payments space, with new deals announced almost daily. An Amazon search returns 132 results for "books on mergers and acquisitions," many of them specifically on fintech. There are countless entrepreneurs and business leaders who have profited from selling their brainchild or making the right investment at the right time. And among the most successful salespeople—the ones driving growth and new partnerships in our industry—the topic of M&A is never far from top of mind.

But the sheer complexity of the payments industry makes the prospect of a merger or a strategic acquisition confusing. You may have a great product or fantastic customer reviews—but does that make your company ripe for acquisition? With this article, the ETA Payment Sales and Strategy Committee has set out to provide some clarity and context around M&As in the payments industry.

The central question entrepreneurs grapple with is this: "What is the company worth?" This question is posed not only by founders and chief executives looking to sell their businesses and make an exit but also by venture capitalists, private equity managers, and other executives in the space. While this article addresses general questions around determining a company's valuation, it is primarily written for business owners looking to merge with or acquire a payments company. There are certain fundamental principles that you can use when contemplating how you would go about buying or selling your company.

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Value Beyond the Ledger

As in the investment community, where the goal is to find undervalued securities and consequently sell your position when you determine it is fully valued or overvalued, information is power. It is much easier to understand very large, publicly traded companies that are followed by armies of investment banking analysts than to estimate the value of a smaller, privately held enterprise, which includes most payment processors. Of the top 244 acquirers in the United States, only 39 were publicly traded companies as of last year, according to The Strawhecker Group; 189 were private, and the rest were a mixture of joint ventures, nonprofits, S corporations, and other structures. While those 39 publicly traded companies together account for 43 percent of payment volume in the United States, the smaller, privately held enterprises are more likely to be open to a merger or an acquisition, and the M&A process is likely to be much more straightforward. For such smaller enterprises, you can get a good idea of their financial position by looking at the strength of the balance sheet, the stability and quality of earnings, and projected return on capital invested.

First, in the acquiring business, you want a strong and productive sales and marketing culture. This is important because the average processor or ISO loses up to 20 percent of its merchant portfolio to attrition every year. By some estimates, attrition costs the merchant acquiring industry about $2 billion annually. What other business has this happen? It is a big job just to replace this attrition, and, without a strong sales team, it can be fatal over the long term. One way to evaluate the strength of an acquirer's sales team is to look at how many merchants the acquirer has, how long the merchants have been with the acquirer, what merchant categories they tend to fall into (and whether they are high risk), their transaction volume, the payment products they use, and what their contractual obligations are. If possible, try to speak with someone on the

"HOW I TURNED A $450 INVESTMENT INTO $48 MILLION!"

Eric Bostic
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sales team. Pay attention to how their customer service operation is set up and how information flows between different departments. Are there obvious data silos? These can lead to missed opportunities to retain merchant customers and acquire new ones.

Second, you must carefully study the financials underpinning the business. The primary areas to focus on include return on capital, liquidity (with an emphasis on cash rather than GAAP earnings), and debt usage and capacity. Fortunately, ISOs do not have a big balance sheet position in either inventory or receivables, and there is not a lot of depreciation, which simplifies valuation. You want to find out how much capital is required to grow the business, and you want to estimate which of your prospects has the best upside potential. Investment analysts focus on the ability of a company to compound its cash earnings. A really well-managed processor will grow cash earnings as fast as fixed capital.

You may uncover some surprises as you review the company's tax returns and general bookkeeping. Some companies underestimate earnings to minimize their taxes due. Your goal is to find the true numbers, which can vary from accounting period to accounting period. (Remember: A big chunk of revenue for ISOs comes during the shopping season between Thanksgiving and New Year's.) Here, you must focus on return on capital (Operating Income divided by Debt plus Equity), return on equity, gross profit margin, operating profit margin, and net profit margin.

Benjamin Graham's book *Security Analysis* (a.k.a. "the bible") offers a good formula for growth value: "Free cash flow times the total of 8.5 plus 2 times the growth rate times 100." So, if a company is growing at 20 percent annually, and it earns a dollar in free cash flow, this would indicate an intrinsic value of $28.50 a share. ISOs do not typically pay dividends, so this is not a factor here.

Nothing happens in a vacuum, and you will have to draw your own conclusions about whether the overall stock market is overvalued at this time. Typically, the overall market will trade at a significant premium, as much as 50 percent, to the net asset value of the underlying securities. Currently, we have a strong economy and low interest rates, and there has already been significant consolidation in our industry. However, this scenario will change over time, so you need to keep that in mind when making your assumptions.

One thing is for sure: In buying or selling your company, you will need expert advisors to guide you. This is not something you can do alone—you need a legal advisor to write the buy-sell agreement and a strategic advisor who understands the acquiring business and is aware of how relatively recent transactions have unfolded and who might be a likely M&A candidate. As entrepreneurial expert Michael Gerber says, when you are the CEO, you should be working *on* your business, not working *in* the business. And trying to construct and price an M&A deal by yourself definitely counts as working *in* the business.

Consider also what is going on in the payments industry, specifically: the trend for large processors to buy up smaller ones, trends in payment processing technology (e.g., mobile, contactless, fraud exposure, new hardware, the connections to ISVs and software providers for specific industries), and the competition for good salespeople and talented industry executives. What happens if you buy a business and then many of the best salespeople leave in the following year to go elsewhere?

The key takeaway is that a merger or acquisition involves many moving parts, and what's going on in the payments industry and the economy will affect the outlook of any specific company. When determining a payments company's valuation, consider a wide range of factors beyond the strict financials—from its portfolio to its staff and its client base. It pays to be familiar with all the pieces well in advance. ***TT***

Brandes Elitch is the director of partner acquisitions at CrossCheck and a member of the ETA Payment Sales and Strategy Committee.

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