

PYMNTS.com

2018

THE YEAR OF...

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2018
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Change is here, and has been, and will come, in payments. The year-end deserves a look back at what happened and a look forward at what might happen. PYMNTS queried 25 executives well-seasoned in tech, payments and commerce to gain insight on everything from A to Z – from AML to Zelle, you might say – and beyond.

In life, change is the only constant, so why should it be different for payments?

From cash to digital, from plastic cards to mobile wallets, from cash registers at the front of restaurants to tablets brought to tables (redefining the concept of “dine and dash”) – the way we pay shifts along with the availability of technology, and tech shifts as commerce demands new features.

Among those demands, at least on the part of the consumer, are speed and flexibility and personalization. We expect transactions, and the commerce that is tied to those transactions, to be quick and round the clock – and far-reaching, round the globe. Now, an individual in China can order a wristwatch from the U.S., and behind the scenes – across web pages, time zones, currencies and languages – the deal gets sealed.

It seems like a revolution – but, of course, revolutions have evolutions. And the end of the year, or the beginning of a new one, marks a good place to take stock. As usual, we spoke to a plethora of payments executives, each with perspective on what’s in the rearview mirror and what lies on the road ahead.

Though 2018 remains simply a demarcation point on a continuum – and the journey is not over, many noted – some notable themes still stand. One is the embrace of software, where hardware once reigned. Another is an embrace of mobile as

the order of the day – literally, as in mobile order-ahead. Demographics play a part, as always, as who we are shapes what and how we buy.

How we buy, and sell, and keep track of it all, is also changing – not just for consumers, but also for businesses, and for the banks that cater to them. Treasury management professionals are finding value in the linkups between FinTech and traditional financial institutions, helping corporate customers of all sizes and across any number of verticals cut down on the paper chase.

Executives also weighed in on how the regulatory landscape is changing, as watchdogs strive to combat illicit fund flows. Billions of dollars in fines have and are accruing, as legacy anti-money laundering systems failed to do what they were designed to do – and so firms must grapple with the challenge of innovation in the endeavor of staying one step ahead of the bad actors. GDPR and PSD2 are helping to shape data sharing.

New ways to pay – as in alternative payments? They’re discussed here, of course, bitcoin and cryptos among them. New ways to track data? Blockchain finds its way into consideration.

All of this and more, as they say. Seems the more things change, the more things ... change. So get ready for what’s next by reading about what happened over the rollicking dozen months of progress and surprises that was 2018.



ingenico
MIKE CAMERLING
CEO

The Year Of...

CHANGING

We cannot call 2018 a Year of Change, for that would imply that we completed a journey. Rather, we are changing – and are still in the early stages of a transformation of the payments industry that is gathering speed and far from over. It is a process that is going to take two to three years to play out, and once it does, it likely will set us up for a new wave of even greater innovation.

In February, Ingenico announced its Android-based payment platform. Following similar moves by Verifone and PAX, this signaled recognition by the legacy terminal companies that the industry is transforming from its traditional focus on hardware to a more open approach to software and services-based merchant payment solutions.

We are turning the corner on an era in which industry leaders competed based on proprietary hardware differentiation. In truth, there was little differentiation, and the hardware was most effectively locking in customers and making it difficult to switch. Terminal vendors grew through

acquisition, rather than innovation; as a result, their numbers dwindled in a pattern remarkably similar to the mainframe computer industry of the 1970s and 1980s, and customers had fewer and fewer choices.

As digital transformation sweeps through industry after industry, choice, openness and flexibility are the key elements to success. Mini computers and PCs forever loosened the chokehold of mainframe computing. Blockbuster gave way to Netflix. Brick-and-mortar booksellers are diminished by Amazon's new distribution model. Newspaper classified ads are a dying breed as the internet offers a more cost-effective, more immediate channel for the "Help Wanted" and "For Sale" listings.

Now it is time to turn our backs on proprietary payment device lock-in that stifles innovation and inhibits the ability of acquirers and merchants to shape their own digital strategies. Where those strategies will lead is still unclear to many, but no one can afford to ignore the changes that eCommerce has brought to traditional brick-and-mortar retail.

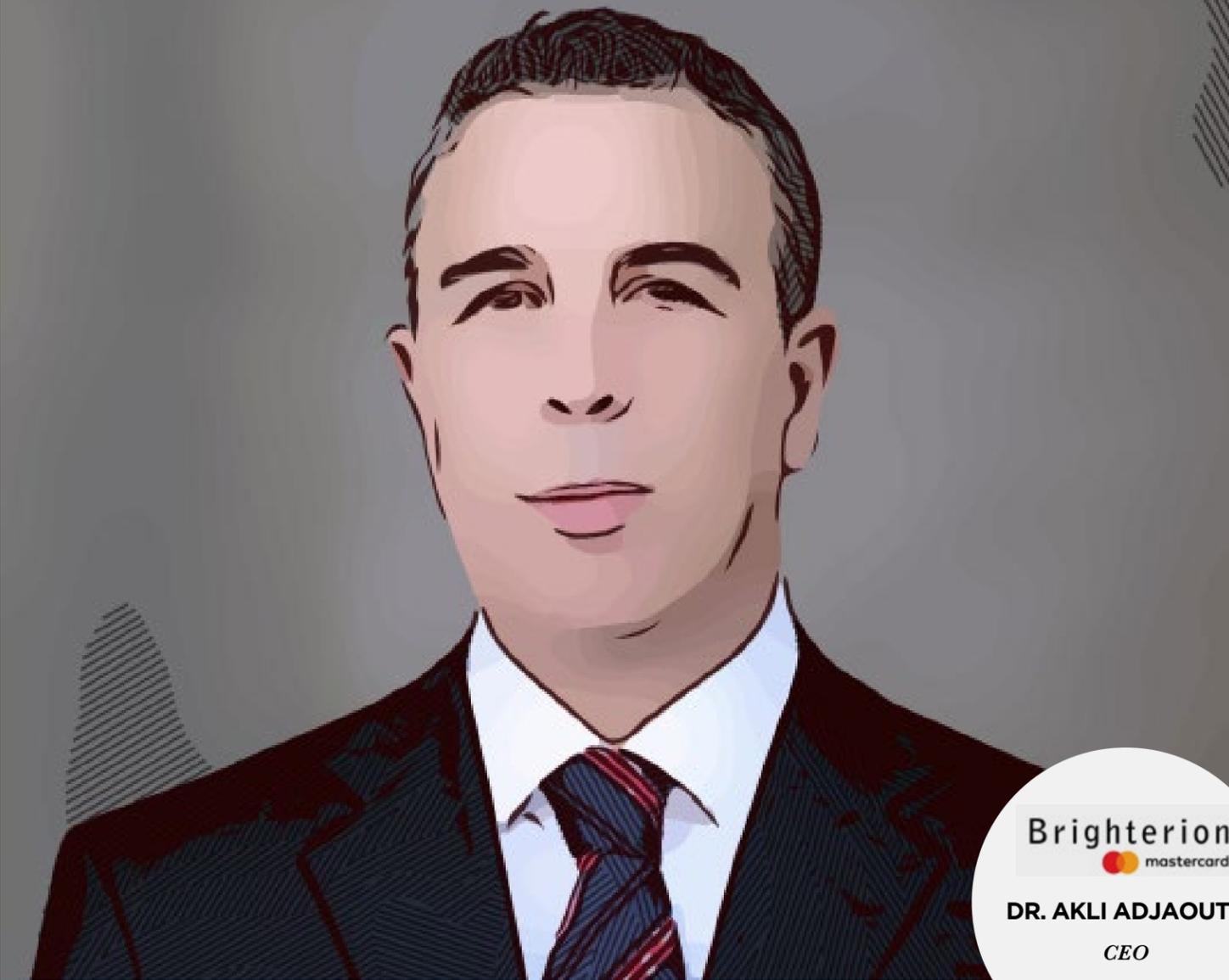
Acquirers and merchants must be free to boldly experiment, but most small to medium-sized merchants have scant resources or time to commit to the effort. They need payment solutions that are able to integrate countertop payment seamlessly with other functions such as delivery or appointment booking, online ordering and in-store pickup, loyalty and discount redemption. If existing solution providers can't help them do this, then they have no choice but to seek out alternatives and open their arms to upstart suppliers who are intent on disrupting the existing order.

Consumers are far ahead of merchants in the adoption of digital technology. Merchants must race to catch up, or risk

falling so far behind they will never recover. Acquirers must provide merchants with the tools and services to accommodate those consumers. Providers must offer solutions that enable next-generation acquirers to become true value-add service providers who can innovate quickly, efficiently, and profitably.

B2B companies in the payments space must adopt a B2C mentality. Solution providers must be willing to let go of older business practices in favor of constantly and pleasantly surprising customers. Change is not a one-and-done phenomenon. Instead, we are in the process of changing – and it is very exciting.

A large, white, sans-serif number '2018' is centered on a grey background. The number is composed of thick, rounded strokes, with the '0' being a simple oval and the '1' being a vertical bar. The '2' and '8' have rounded, friendly-looking shapes. The background is a solid, medium-grey color.



Brighterion
 mastercard

DR. AKLI ADJAOUTE
 CEO

The Year Of...

AI

On December 3, 2018, the U.S. Treasury's FinCEN and Federal Banking agencies issued a joint statement encouraging innovative industry approaches to combating money laundering, terrorist financing and other illicit financial threats.

As a result, anti-money laundering (AML) has been occupying the headlines as of late. The financial industry has paid \$321 billion in fines just through the end of last year, as estimated by Boston Consulting Group. JPMorgan had to pay more than \$2 billion in fines due to violation of the Bank Secrecy Act, tied in part to the infamous Bernie Madoff scheme.

Regulators admit that legacy AML solutions failed and they are encouraging banks to implement newer, more innovative approaches in this area.

"As money launderers and other illicit actors constantly evolve their tactics, we want the compliance community to likewise adapt their efforts to counter these threats," said Under Secretary of

the Treasury for Terrorism and Financial Intelligence Sigal Mandelker.

Legacy AML Approaches Are Ineffective

Traditional AML systems, based primarily on rules, fail to detect suspicious activities as they suffer from several key limitations when attempting to identify money-laundering activities. These limitations lead to most institutions facing the following common issues:

- High rate of false positives. Over 99 percent of alerts are false positives, which renders legacy systems useless
- Corporate silos that are narrowly focused, which increases the risk of undetected suspicious activity
- High IT costs
- Non-adaptive; money launderers change their modes of operation frequently. If one method is discovered, activity will switch to alternative methods. Business rules are not adaptive and thus need to be frequently and manually updated to remain current.

Next-Generation Compliance and AML Solution

The Financial Action Task Force (FATF) requires that countries, competent authorities, and financial institutions identify, assess, and efficiently respond to the money laundering and terrorist financing risks and have the appropriate measures to mitigate them effectively.

The application of a combination of rules, fuzzy logic, and artificial intelligence (AI) technologies, particularly unsupervised learning, will help efficiently meet existing and new regulatory challenges to successfully combat money laundering, terrorist financing and other illicit financial threats.

Unsupervised Learning

As historical data related to money laundering is scarce and unreliable, it is vital to utilize unsupervised learning technologies, which have the ability to gain insight from data without any prior knowledge of what to look for. Unsupervised learning is learning from unlabeled data, where particularly

informative privileged variables or labels do not exist. As a result, the greatest challenge is often to differentiate between what is relevant and what is irrelevant in any particular data set.

Unsupervised learning also encompasses dimensionality reduction, feature selection and a number of latent variable models. While first-pass solutions often use business rules, the combination of these painstakingly tested and verified rules with the power of unsupervised learning technology empowers these initial solutions with far greater accuracy.

Unsupervised learning platforms utilize temporal clustering, link analysis, associative learning and other techniques to allow customers to track transaction volatility, entity interactions, behavioral changes and more.

The power of unsupervised learning for detecting money laundering shines when data from a multitude of sources can be ingested by the system. Having a system flexible enough to accept multiple data points across a variety of sources is

essential in tracing the full behavior of the individuals and the assets laundered. For example, in the context of a wire transfer, first is the transaction layer securing individual transactions such as currency deposits/withdrawals, wire transfers and checks. Second is the individual or account layer; multiple transactions are associated with specific individuals and bank accounts. Third is the business or organizational layer. Fourth is the “ring” layer, which involves multiple businesses, accounts and individuals in a money laundering scheme.

Smart Agents

Smart-agents technology is a personalization technology that creates a virtual representation of every entity and learns/builds a profile from the entity’s actions and activities. In the compliance industry, for example, a smart agent is associated with each customer, merchant, terminal, etc. The smart agents associated with an entity learn, in real time, from every activity to enrich the knowledge the system has of a single customer, learning from their specific and unique

behaviors over time. There are as many smart agents as active entities in the system. For example, if there are 200 million checking accounts, there will be 200 million smart agents instantiated to analyze and learn the behaviors of each account. Multi-dimensional smart agents can also be created to monitor, for example, card activity across specific merchants. Smart-agents technology allows decision-making to be specific to each checking account and no longer relies on logic that is universally applied to all customers, regardless of their individual characteristics. The smart agents are self-learning and adaptive, since they continuously update their individual profiles from each activity and action performed by the entity.

Smart agents do not rely on pre-programmed rules and do not try to anticipate every possible scenario. Instead, smart agents create profiles specific to each entity and behave according to their goals, observations, and the knowledge that they continuously acquire through their interactions with other smart agents. Each smart agent pulls all relevant data

across multiple channels, irrespective of the type, format, and source of the data, to produce robust virtual profiles. Each profile is automatically updated, in real time, and the resulting intelligence is shared across the smart agents. This one-to-one behavioral profiling provides unprecedented, omnichannel risk analysis.

Conclusion

Institutions are actively trying to avoid being front and center of headlines for money laundering and terrorist financing

activities, which result in huge fines, reputational damage, attention from regulators and the loss of partners and clients. As such, institutions must utilize a combination of the benefits of existing rules-based systems augmented with unsupervised learning techniques and the unique capabilities of smart-agents technology. The result is a comprehensive solution that is intelligent, self-learning, and adaptive, and will efficiently combat money laundering, terrorist financing and other illicit financial threats.

A large, stylized white graphic of the year '2018' is centered on a grey background. The numbers are thick and rounded, with a slight shadow effect, giving them a three-dimensional appearance. The '2' and '0' are connected at the top, and the '1' and '8' are also connected at the top. The overall design is clean and modern.




corcentric
MATT CLARK
President & COO

The Year Of...

COLLABORATION

B2B transactions can be a primary source of potential friction within a company. However, businesses are increasingly discovering solutions through collaboration. When suppliers, buyers, and solution providers collaborate, they are working together to remove friction from the end-to-end P2P process.

Strengthening the Buyer-Supplier Relationship

This past year has seen an acceleration in the technology that provides a platform for companies to interact with suppliers and their customers. Working together to implement solutions that provide value to both the buy-side and sell-side of the equation, buyers and suppliers achieve insight to working capital that was not previously possible. The main reason is visibility. Collaborating primarily through digitization, buyers and suppliers, with platforms provided by third-party solutions providers, are able to instantaneously organize and access account information. The total cost of the buyer-supplier relationship is no longer only about the

pricing of goods and services. It's about the pricing and processing of transactions.

Building the Digital Supply Network

Digitization has the power to transform that relationship, but only if the parties work together to apply what they learn from the data. A digital supply network between buyers and suppliers accumulates data on crucial elements of the P2P cycle, like the status of invoices and supplier payments, procurement pricing, payment terms, and discounts. Reams of supporting data and documents validate the transactions, in addition to providing connectivity among buyers and suppliers that makes it easier to streamline how buyers and suppliers “talk” to one another.

Additionally, one of the major barriers to collaboration has been the pre-existing business siloes within a company. Procurement, finance, and accounts payable have tended to follow their own agendas and pursue their own goals. That has often worked at cross purposes to overall corporate goals and initiatives. But,

thankfully, these silos begin to dissolve when the entire purchasing cycle is brought online.

Understanding the Value of Collaboration

And it's not just about the obvious benefits of minimizing complexity in the P2P cycle, such as controlling purchases – and indirect spend, specifically – centralizing accounts payable data and eliminating data errors. Everything that comprises the P2P cycle, from POs to invoices to payments, is now capable of being done electronically. Collaboration enables businesses to focus on the ease of

doing business overall, in order to foster better and stronger B2B relationships – relationships that are based on the fact that each stakeholder has an investment in ensuring the process works quickly, efficiently, and accurately.

The power of organized and accessible data that results from collaboration empowers decision makers. Armed with the data they need regarding their businesses' upcoming profitability and expenses, they can make the decisions that will build their companies' growth and success.



The Year Of...

RECEIVABLES



BILL ZAYAS

President and CEO

Integrated receivables is one of the fastest growing payment products for bank's treasury management team in 2018. At AFP 2018, the exhibit floor had significant activity from banks and corporates evaluating solutions. AFP included several key sessions on the subject, including a great panel discussion (from us) that discussed how the market is evolving rapidly, and the industry dynamics that are allowing banks to partner with FinTechs. Christine Barry, research director from Aite, recommended that banks "act now and look at FinTech partners as a possible solution to get to market quickly."

Research data clearly shows that the market adoption over the next three to five years is growing rapidly, with some analysts pegging a 9 percent CAGR. Much of the publicly-available research focuses on the large bank market. But integrated receivables is a strategy for any bank with corporate customers, as all corporates are having significant invoice-to-cash application challenges.

Invoice-to-cash collection gets more complicated each year as customers demand new payment types. Cash, checks, electronic payments, buyer networks, wires and the soon-to-come real-time payments create processing challenges. This mix of payments creates headaches for the treasurer and staff processing them. Plus, with increasing interest rates, collecting and depositing payments quicker leads to increased profitability and greater customer satisfaction.

So how can your bank take advantage of this fast-moving marketing and offer your corporate clients new, innovative treasury solutions?

While many banks continue to analyze and put together business plans to attract this market opportunity, many others battle internal organization challenges to implement new integrated receivables technology. However, we believe that there is a quick and easy way to get into this market and expand your treasury management solutions using remote deposit capture in the cloud.

Okay, by now you are wondering how a legacy product like remote deposit capture can get you into the integrated receivables market. Today, your bank has a number of corporates using this product, but it only solves half of the corporates problem. Most remote deposit capture solutions can only scan the check to make the deposit at your bank. While this an efficient deposit process, the corporate customer is left to post all of those payments manually into the corporate billing or accounting system. Most remote deposit capture solutions can create and deliver a posting report to make data entry easier, but this still leaves your customer to manually re-key the payment data. Thus, legacy remote deposit capture solutions in the market today streamline the deposit-gathering process, but lack the reconciliation process and more importantly, only handle the check payment types and ignore all of the other

payments your corporate customers accept.

The Future with Remote Deposit Capture 3.0

Remote deposit capture 3.0 allows your bank to enter the integrated receivables market immediately. I know you are probably thinking, "What is remote deposit capture 3.0, and what happened to remote deposit capture 2.0?". Some remote deposit capture providers allow their banks to scan a coupon and to extract a file for posting. In our sampling of banks, only a few banks and their customers ever took advantage of this "2.0 upgrade," as many felt it was too restrictive with scanning the coupon only, and created challenges for posting file formats. Additionally, many of your corporate customers had challenges with new browsers that needed

to be supported, along with scanner device support. This significantly limited the options the customer had to take advantage of your legacy remote deposit capture.

Remote deposit capture 3.0 offers advanced browser flexibility, but also the capability to capture a remittance or a coupon. In addition, remote deposit capture 3.0 can match the scanned remittances or coupon payments to the corporate's open receivables, and create a single posting file back to the billing system. These added features enhance your value to your customer, as you can complete the check cash application process. However, there's more with remote deposit capture 3.0. By extending remote deposit capture as part of an integrated receivables platform, your bank can offer to capture all of the other

payments that your corporate receives, including emails, ACH, wires and credit cards. In addition, mobile RDC allows your corporate customers' field personnel the ability to capture payments only, and not have access to all of the other confidential account information that many commercial mobile apps in the market provide today.

Bottom line, the year of payments is about integrated receivables, and remote deposit capture 3.0 allows an immediate path to get you there. Get in the market today so your customers don't look to your competitors or FinTech providers. Remote deposit capture 3.0 allows your bank the most advanced treasury solutions in the market, to not only retain clients, but attract new ones.



MATT REDWOOD
Head of Self-Service

The Year Of...

SELF-SERVICE

Self-checkout has been around for 15 years – we’re all accustomed to seeing SCO point-of-sale terminals at the grocery store. Self-service has woven its way into so many of our daily activities, from paying for gas to checking into a flight.

Yet I think for many years, there’s been an oversimplification of self-service solutions. There has been an assumption that if SCO is installed, customers will use it, and the retailers will shave costs. This couldn’t be further from the truth. This year, as kiosks, scan-and-go devices, mobile loyalty apps and other shopping technology have all made their way into stores at a mainstream level, I’m finally seeing retailers start to understand and explore the entire spectrum of self-service. It’s way more than SCO – and it’s way more complex than simply swapping out teller terminals.

Lessons From the Early Days

Ubiquitous smartphone use has changed the way consumers engage with brands. Consumers are empowered to take their

own journey through each shopping experience and transaction, all the way up to POS. We’re now at the stage where consumers are demanding more say in every aspect, whether they’re shopping online or in-store. In the U.S., for instance, 95 percent of consumers say they’ve encountered self-checkout in retail, and 49 percent say they use it on a daily basis. These are huge numbers, and multiplied across the globe, it’s massive.

But as retailers have begun to shift their focus to this end-to-end consumer journey, the old rip-and-replace mentality has begun to show some major cracks. Everything has to change when you shift to self-service – no matter what solution you employ. Your approach to cash management, the back office, the way your staff engages with customers, the layout on the front end – all these elements of the brick-and-mortar store have to be addressed because it’s a business-change solution, not an incremental development. Unless retailers are willing to invest the soft costs of time, energy and top-down support, the adoption levels will not be there.

Here's the thing: Early adopters saw SCO as a way to strip out costs and cut staff. On paper, it seemed like an obvious solution to make stores more efficient. But these early adopters found that the consumer experience went down the more they stripped the staff out.

Supporting the E2E Shopping Journey

Today, we're talking about how we can make the front end of the store as efficient as possible by taking process away from staff and giving it to customers. But unlike those early days, that doesn't translate to a staff member who is going to lose his or her job, but instead to a staff member who could be redistributed to another part of the store, to be visible and help customers with their shopping experience.

The most value a staff member can deliver to your customers, in terms of the interaction with your brand, is in the aisles, helping customers with their shopping experience. Most consumers, when they get to checkout, just want to get out as quickly as possible, so a frictionless checkout that delivers the best experience becomes a real customer value.

This is the first year where I've started to see more retailers really "getting it" when it comes to this philosophical shift. They're starting to bake self-service into their strategic plans. As they open new stores, they do so with a complete mentality change and a much more diverse approach to the customer experience and self-service. Now that in-store technology

has passed through the early-adopter stage and become more mainstream, retailers are more frequently utilizing scan-while-you-shop tools (whether that's in the form of a handheld personal scanner or an app on their mobile phone), loyalty apps that offer in-store coupons, kiosks that speed up the ordering process and POS terminals that can flex with foot traffic, operating as manned checkout stations or self-checkout depending on the store's immediate needs. We're seeing a much more blended checkout portfolio with retailers segmenting their customer types and providing specific solutions targeted at each one – offering a better in-store experience for more of their customers, as well as delivering a highly efficient store operating model.

Every store setting is unique; a QSR (quick service restaurant) has very little to do with an upscale fashion retailer, and its self-service solutions won't look the same either. But as we've seen this year, and I think we'll continue to see in 2019, the very concept of self-service is expanding to meet the needs of a vastly different consumer base. SCO was just the beginning – and now we're really beginning to see the possibilities for using a wide range of in-store, self-service solutions to drive connected commerce across channels and silos, to facilitate the entire E2E shopping journey in new and innovative ways.



 Entersekt

GERHARD OOSTHUIZEN
CTO

The Year Of...

BROKEN HEARTS

I remember a conference almost a year ago. Bitcoin (and other cryptocurrencies) had started its major run; everyone was excited. In the panel discussions, the bitcoin proponents were talking about it reaching \$100,000. This was what everyone was hoping for – bitcoin was finally taking off, and it was going to be HUGE. Cryptocurrencies were going to change the world! The true believers were talking about liberty and freedom. Johnnies-come-lately were jumping aboard to set up mining rigs as fast as they could get their hands on graphics cards.

There were, of course, the naysayers, who were drawing parallels with the Dutch tulip bubble of the 1630s, cautioning that a currency based on burning CPU cycles would not be sustainable. The moment it got really serious, they said, the regulators would step in and kill it.

As 2018 rolled along, bitcoin dipped. Then it dipped again. It fell gradually. The mining rigs, burning all those CPU cycles, gradually became unprofitable in many countries. A lot of people made a lot of

money, but a lot of people lost a lot of money too. More bitcoin forks emerged. At Entersekt, we started exploring a new market segment – the scores of rich cyber exchanges popping up all over the world.

The goldrush got out of hand. Over-exuberance gave way to reality. The media soured on what it had previously appeared to boost. Investigators were looking into fraud at Tether; crypto exchanges were being preyed on by hackers. At the close of 2018, a lot of people are hurting, either from climbing in too late or having lost their savings through account takeovers or hacking.

So, what's the lesson to be learned? Are cryptocurrencies a bad idea? Personally, I think these are the wrong questions to be asking.

Looking at Things Back to Front

Not all that long ago, I was at another conference. This time, the buzz wasn't about bitcoin but blockchain, its underlying foundational element. The latter had a whole track to itself. There was also a big

data track and one for biometrics. In a session on biometrics, the presenter asked the audience how they would prefer to make a payment, with the choices rather astonishingly being these: biometrics, traditional card with PIN, or eCommerce with card PAN entry.

As multiple choices go, this would not make it into a high school test. How can you compare payment rails with a technology that plays no role in moving money? A technology that, on its own, does nothing to help consumers perform a task or overcome a hurdle.

When did we start organizing tracks at FinTech conferences on the basis of individual technologies rather than industry challenges and opportunities? Surely, we

should first focus on the issues we want to address – faster payments, account takeover, and customer experience – then explore how we do it.

In 2018, I saw far too many presentations that started with a hot new technological concept and then moved on to the use to which we might put it. I see the same back-to-front thinking in articles and closed-forum discussions. This reversal of priorities has been growing throughout 2018.

Return to the Customer

As technologists, we do so love a “next best thing.” Potential new use cases for a technology are what gets us up in the morning. At Entersekt, we are always evaluating new tech. It’s a big part of my

job, and anyone who knows me knows how innovation excites me. But we never lose track of the consumer in our research. The question is always how, in a very tangible way, a new tool might meet users’ well-established needs, how it will add value for our clients.

Successful companies are not “about” blockchain or AI or any other type of technology. Some firms may be seeing good returns for consulting now, but they will ultimately be eclipsed by those that:

- Solve a real problem
- Are user-friendly
- Offer real value, and
- Protect the customer

I sincerely hope that in 2019, we will moderate our exuberance for the next big thing and get back to solving real-world problems instead of grasping around for ways to use cool new tech. Perhaps we can also get back to conferences that focus on understanding the here and now, and discussing ways to use the tools we have to make life easier for everyone, instead of passionately debating technological hypotheticals. If, like Entersekt, you’re a financial institution or FinTech that seeks to create value for your clients and not fixate on hype, we’re bound to bump into each other soon.



First Data

GLENN FODOR

*SVP, Head of
First Data Insights*

The Year Of...

THE STORE

Following a year characterized by the disruption of the retail landscape, the growth of digital payments, and significant mergers and acquisitions, 2018 began with many observers expecting to see the downfall of brick-and-mortar in favor of eCommerce, further technological enhancements to digital payments and additional market consolidation. Despite many of these trends taking place, brick-and-mortar retail outperformed expectations by embracing innovation, exemplifying inherent value for non-traditional retailers and improving the customer experience – which, in our view, helped crown 2018 “The Year of the Store.”

Brick-and-mortar’s performance to start the holiday season illustrated physical retail’s ability to encourage customers to spend more per visit. After a notable performance in 2017, and a modest start to the “pre-holiday” season leading up to Thanksgiving, small and medium-sized businesses (SMBs) outperformed total spending, 7.5 percent to 7.1 percent, which continued through Cyber Monday, with SMBs outperforming 5.5 percent vs. 5.0 percent. With respect to last year’s

performance, where spending growth across Thanksgiving and Black Friday doubled versus the pre-holiday season, this year growth tripled to 7.1 percent.

One of the year’s highlights, which also garnered plenty of press), was Amazon’s push into physical retail. Recall that last year, Amazon made a splash with its \$14 billion acquisition of Whole Foods – and while Whole Foods’ 465 locations still make up about 75 percent of Amazon’s brick-and-mortar presence, it’s the other 25 percent that was the focal point in 2018. Other Amazon-branded stores comprising the company’s physical footprint include Amazon Books, Amazon pop-ups and AmazonFresh Pickup.

In the past year, Amazon has added more than 150 physical locations to its footprint, bringing its total to nearly 630 stores. For reference, that makes their physical footprint already larger than that of some of the largest “big box” retailers. Furthermore, Amazon expects physical retail sales will likely be north of \$15 billion in 2018. With the progress Amazon made during the year in physical retail, the stage

is set to show the world its potential to be a force in physical retail, not just online.

Most notably in its offline push during 2018, Amazon launched a series of cashier-less concept stores known as Amazon Go. The stores employ proprietary technology that tracks what shoppers pick up from shelves and automatically charges them when they walk out of the store. That said, while the cashier-less trend is by no means solely unique to Amazon, its announcement seemingly revitalized the industry's interest. This year, we saw countless retailers announce pilots of cashier-less stores, or tests of these systems in existing stores. According to CB Insights, more than 150 companies are working on automated, human-free, brick-and-mortar retail locations. Familiar technologies such as mobile applications, QR codes, machine learning,

artificial intelligence, Internet of Things, radio-frequency identification (RFID) and biometrics are making the cashier-less experience possible as they are combined to create new solutions.

The increasing number of eCommerce native retailers entering the physical world also endorsed the importance of brick-and-mortar. As the U.S. Census Bureau estimates that eCommerce sales as a percentage of total retail sales will reach approximately 10 percent in 2018, it's no wonder that more and more online-native retailers are looking to gain a foothold in brick-and-mortar, given its continued importance.

At the same time, those physical retailers that were able to create a more seamless harmony between online and digital were the most successful. Costco transformed

its business model by implementing digital and omnichannel strategies. For example, it began offering two-day and same-day delivery options through a partnership with Instacart, and even began giving store employees tablets to help facilitate online orders. Target, which reported its highest same-store sales numbers in 13 years in August, invested in its physical locations, opening smaller-format stores in urban centers, and doubled down on eCommerce. These are but a few examples of 2018 successes in physical retail.

Thanks to the advent of new technologies and adjusted business models, it is evident that the physical store gained importance among traditional and non-traditional retailers alike in 2018. This renewed relevance is why 2018 is The Year of the Store.



fiserv.

MATT WILCOX

*SVP, Marketing Strategy
and Innovation*

The Year Of... **CHOICE**

2 018 was a pivotal year for payments. The past 12 months have seen monumental expansion of payment options, enabling the rise of non-traditional business models and leading the way to exceptional customer experiences. That's why 2018 will be remembered as the year of "choice." From the choices a business makes regarding payment platforms and services, to the choices we as consumers have when deciding how to pay and get paid.

Here are three significant trends we saw in 2018 and expect to continue through 2019:

New Payment Options Enable New Business Models

New payment options offer opportunities for traditional businesses to accept and send payments in ways that enhance operations and better serve customers. In addition, new payment options are enabling entirely new business models by making it possible for emerging companies to connect to proven payments platforms that in the past would have been well out of reach due to cost or complexity.

We've seen the rise of gig economies and expect emerging businesses to incorporate payments seamlessly into the customer experience, even to the point of anticipating and then facilitating customer payment decisions.

Changing business models are also giving workers more choice. Now, getting paid once or twice a month is not the only option. Earned Wage Access (EWA) providers can now deliver instant wage payments via a variety of payout methods (direct to bank account, prepaid card or another recipient account). This immediate access to earned pay can influence where someone chooses to work and can even reduce employee turnover.

Speed of Payment Determines Customer Choice

There was a lot of noise about payment speed in 2018. Look for it to only heighten in importance in 2019. There are "new" rails, but the old ones are still there. Many payment options remain in use because they are tried and true, while others continue to be enhanced or used in new

ways. This drives complexity for everyone as the list of options continues to expand.

The “Expectations & Experiences: Consumer Payments” survey conducted on behalf of Fiserv showed that when consumers define “real-time” with respect to financial transactions, 50 percent expect real-time to mean “immediate” and 24 percent expect real-time to mean “within a few seconds.” Organizations will need to focus their efforts on choosing rails that meet those expectations.

In many ways, speed flows around affirmation of payments. Often, if you pay your bill through a financial institution channel and then log in to that biller’s site, you won’t see that payment confirmation for quite some time because the systems aren’t connected.

Likewise, you could go into a large retailer’s money center to pay your mobile

phone bill with cash, but because the money center and mobile phone provider systems are not connected, your phone provider could contact you to tell you you’re late with the payment even after you paid the bill.

In the coming year, there will be a continued need for payments providers to tie systems together to achieve a holistic view of payment status. The key to becoming an indispensable part of people’s lives is to unwind complexity so consumers have a rich, seamless and fast payment experience.

Using Data Optimizes the Customer Experience

One problem with competing based on customer choice is the difficulty billing organizations have managing and capitalizing on available data. It’s too often the case that organizations manage each channel in a separate silo, clouding any

holistic view of customer behavior as well as forcing the company to react rather than anticipate customer actions.

That approach often leads to higher costs for channel management, failure to create a free-flow aggregation of customer data from one channel to the next and missed opportunities to strengthen relationships with customers.

In 2019, expect these silos to begin to disappear as organizations use aggregated consumer data from across all touchpoints to gain new customer insights and create a more personalized billing and payment experience.

A holistic view of the customer can help organizations assess why customers might choose one channel over another at certain times. Maybe a customer uses a particular channel, which might be a high cost to the organization, with the mistaken

belief that the use of another channel could lead to late payments.

With an understanding of why people make certain choices, an organization can provide incentives and education to guide customers to the most appropriate channels.

2019 Will Be the Year of Engagement

This was a year of building the foundation of choices businesses and consumers will have in 2019 and the future. The bar is set high in the coming year for companies to find ways to enhance engagement with consumers in the most seamless ways. That will come in various forms as the market evolves and more tools emerge.

The keys will be anticipating what comes next, adapting to changing consumer expectations and offering connected, intuitive experiences.



flywire

MIKE MASSARO

CEO

The Year Of...

CRYPTO-BUST

A Lack of Meaningful Use Cases

There is a lot of positive and productive experimentation going on with blockchain, but it's still just that, experimentation. And it goes well beyond payments and finance. Nearly every industry is talking about finding applications for blockchain at some level – from supply chain, to construction engineering, to software development and testing and everywhere in between. Maybe that's part of the problem – too many shiny objects to chase, and not enough focus on specific and important problems across the payments industry.

To be clear, I believe that the vision behind blockchain represents true innovation and promise, but the level of hype gets in the way of practical applications. For now, billers, payers, processors and bankers are finding other effective ways to solve the same problems – without blowing up the whole existing system. And until that pain reaches an unbearable point, the mass majority will continue to do the same.

A Lack of Trust

Crypto might be blockchain's worst nightmare. There have always been questions about the security and viability of the crypto model, and nothing we have seen in 2018 has done anything to mute those concerns. In an industry that is supposed to value security and predictability, crypto has brought us a landslide of just the opposite – in the form of market crashes, adjacent market declines (Nvidia), fraud, scandals and more. As anyone would expect, this has done nothing but negative things for the underlying distributed ledger technology. And I think most people in our industry feel the worst is still yet to come.

The more we split these two innovations up, the better. Until crypto hits the bottom, the industry will likely be very hesitant to move forward aggressively on some of the innovative ideas behind it. Conversely, the underlying blockchain technology can be applied to solve any number of important problems – without all the baggage.

No Replacement for Trial, Error and Hard Work

None of the underlying systems we count on in the financial services arena were created “overnight.” There have been huge investments in infrastructure, security, customization, trial and error. As much as blockchain and crypto to a larger degree want to skip those rights of passage, the industry and our customers/users appreciate the substantial benefits and stability those processes bring. There

are surely opportunities to accelerate the innovation cycle here. We can all agree that financial services as an industry is too slow to innovate as a whole. At the same time, greedy, careless and premature efforts like those we have seen in crypto (and blockchain to a lesser extent) are innovation killers. And it prevents us as a collective industry from realizing the ultimate goal of finding practical applications for those innovations.





BILL CROWLEY
Head of Product

The Year Of...

EXPERIENCE

For years, the payments industry (yes, even Hyperwallet) has been harping about speed. As an outbound payment provider, we often said that fast delivery was essential for our clients to provide a great user experience (UX)—and especially a great payment experience (PX)—to the consumers, workers, and suppliers in their digital ecosystems.

Quicker payments have been the primary objective of industry innovators for years, and it's hard not to marvel at the progress we've made. Around the world, as many as 40 countries have adopted real-time payment systems to improve the speed, efficiency, and security of money transfers within their borders. Payment providers like Hyperwallet now offer a range of payout options that provide fast delivery of funds. As a result, eCommerce platforms and two-sided marketplaces have been able to give sellers and contractors quick access to their earnings.

While speed is a crucial element of the PX, though, it's not everything. By focusing so much on fast delivery, it's easy to overlook

all of the other factors that make a great PX. And the reality is that expectations around PX are evolving.

Consider the typical eCommerce seller. When eBay, Amazon and other eCommerce pioneers were getting started in the 1990s, most sellers were perfectly content with receiving a check, or even cash. Soon, marketplaces began offering digital bank transfers, which became — and continue to be — the dominant method of payment. But as sellers' payment expectations have evolved, the demand for alternative payment methods has grown significantly. Modern eCommerce platforms need to offer a diverse range of payout methods — bank transfers, prepaid cards, direct payments to existing debit cards — to remain competitive.

PX expectations can also change from one geography to the next. Advances in connectivity and financial infrastructure — particularly in developing regions — have made it easy for companies to penetrate new markets. This has allowed eCommerce marketplaces to unlock entirely new seller and worker

communities, which has, in turn, introduced new sets of cultural and regional expectations around payments. For example, a U.K.-based eCommerce seller might prefer to receive payment via real-time bank transfer. That won't work for an unbanked seller in Malaysia, who will need to be paid via either cash pickup or a mobile wallet.

Some of the most successful payments companies of the past year are the ones that have filled the experiential gaps left by their legacy competitors. PayPal, for example, has made significant strides in building out its localized, country-specific payment options, enabling users to transact conveniently in their native currency. And this trend isn't unique to

payments: adjacently, an emerging class of "challenger banks" is winning customers away from traditional financial institutions by prioritizing simplicity, accessibility, and ease of use in their services. Sure, they can be faster than their competitors – but that's just one part of a sales pitch that centers around their PX.

The advancements our industry has made in accelerating payment speed should not be understated. But as innovators, we need to think more broadly about how our products and services can improve the lives of the people who interact with them. This past year, we took some major steps in that direction – and that's why 2018 is the year of the experience.

A large, white, sans-serif font displays the year '2018' against a solid grey background. The numbers are bold and have a slight shadow effect, making them stand out prominently.



ICBA
BANCARD
& TCM BANK®

TINA GIORGIO
President & CEO

The Year Of... **FRESH**

Fresh is how I'd describe payments in 2018. I can't think of a time when we've seen as many innovations emerge in this industry than the past 11 months.

The market clearly drives many of these changes and corresponding innovations, as evidenced by the double-digit growth in online payments. This year's holiday spend serves as an example. According to Adobe Analytics, Cyber Monday hit \$7.9 billion, making it the largest online shopping day of all time in the U.S., with sales from smartphones exceeding \$2 billion, the most in history. What does that say about customer preference? If I can sit in my house and get the same, if not better, deal, pay via my digital wallet on my phone, and have this item delivered, I'm going to do it.

This dynamic shift in experiential expectations means banks need to innovate to keep pace. Up-and-coming products need to address the user experience and deliver on the instant gratification to which we've become accustomed. For the first time, payments are transforming into a make-or-break

selling point in attracting new accounts and maintaining our current portfolios.

Fresh Speed

Take faster payments. Real-time or near-real-time solutions create opportunities to address business-to-business pain points. There are a multitude of use cases leveraging existing rails and using emerging ones. Established systems offer same-day ACH, proprietary push payments powered by service providers, and expedited products running on card infrastructure, among others. In addition, for the first time in 40 years, we have a new payments settlement system in The Clearing House's Real-Time Payments Network, and the Federal Reserve has issued a request for comment to explore operating a real-time gross settlement service. What does all this mean? Faster is here to stay, and work to accelerate payments will continue in 2019 and beyond.

Fresh Use

In addition to speed, 2018 strengthened solutions that improve the end-user

experience. Ten years ago, would you have imagined payments would become a social mechanism? Not likely, but just look at Venmo's adoption rates. In the third quarter of 2018, the provider reported a 78 percent increase in year-over-year payment volume; the company historically has attributed its success to its social component, referring to it as a "secret sauce." Venmo faces steep competition from Square's Cash, and from Zelle, which is a bank-centric, end-user payment interface. Next year's numbers will tell if that social component will be enough to continue to grow volume.

The desire for global connectedness spreads into other payment functions as well. This year's Money2020, for example, featured a track on social responsibility

through payments. Solutions like the FIS Charitable Giving program powered by GoodCoin, an ICBA Bancard partner, produce frictionless ways to leverage banking infrastructure to support philanthropic work. As an integrated giving solution, GoodCoin enables individuals or businesses to give back to the charities they care about directly through their online banking experience. This concept of social responsibility in payments is a budding trend that elevated in importance in 2018 and is one to watch in 2019.

Fresh Security

With all of this innovation comes the potential for novel sources of fraud, so we need to be looking for risk mitigation services to safeguard our offerings. Thus, risk management becomes a vehicle for

complementary innovation. Consider the convergence of artificial intelligence and traditional fraud tools, which enhance our ability to efficiently detect anomalies and signal potential issues. Another advancement, 3D Secure 2.0, delivers substantially increased protections for card-not-present transactions, and has contributed to a significant reduction in fraud losses. And as innovative payment offerings come online, more will be done to shield payments against rising threats. Expect expansive developments in this area next year.

2019: A Fresh Perspective

No matter how you look at it, 2018 brought forth significant developments in payments. This year saw exponential growth in novel payment concepts that

remove friction from the process. From contactless cards to wearables to P2P solutions and beyond, technological innovation is now a necessity.

This rate of change isn't slowing, and it puts the pressure on financial institutions to have a strategy in place to respond to evolving dynamics, particularly around customer expectations and needs. Banks should enter 2019 with an open mind around emerging technologies and a fresh perspective on their mission in this shifting landscape.



DREW EDWARDS
CEO

The Year Of... **INSTANT**

In just 12 short months, push payments have evolved from an emerging innovation embraced by early pioneers in select industries to a rapidly accepted standard across businesses in multiple sectors. In fact, Atos named instant payments as one of the 10 most disruptive technologies shaping banking in the year ahead.

Perhaps more than any other trend, this is exciting because it delivers the promise of instant money today versus relying on the development, implementation and regulation of future technologies. The result is that customers are happier now and businesses are cutting costs and adding lines of revenue today.

Push payments are instant, safe-to-spend funds delivered directly into a customer's account using existing payment rails. A push payment functions just like a transaction, only in reverse. This means a push payment uses the same cards and accounts that people already know and trust, making it easy and familiar for both the sender and recipient of a payment. It also closes the settlement gap from

days to minutes, operates 24/7 – even on weekends and holidays – and costs significantly less than paper checks to administer.

Push payments are ideally suited for the \$10.7 trillion business-to-consumer disbursements market. These customer-facing transactions are often integral to ongoing relationship-building and revenue generation. Consider the distribution of loan proceeds to a consumer or small business borrower, the payout of an insurance claim for a significant property loss, or the compensation of a gig economy or contract worker.

By making it easy for customers to accept funds and choose nearly any preferred destination account with the push of a button, companies are transforming what is traditionally a painful experience for consumers into the thoroughly modern one they crave. Real-time digital disbursements simply deliver an experience far superior to paper checks or ACH. In turn, customers reward companies with repeat business and high marks for satisfaction. All while saving money and

potentially even creating new revenue-generating lines of business.

Over the course of 2018, major brands in nearly every sector deployed some form of push payment-powered real-time disbursement system. From OnDeck and Safelite Solutions to ADP to Uber and Lyft, this adoption signaled the tipping point for instant money.

This trend is accelerating now that banks have entered the fray. These large incumbents have traditionally relied on paper checks and ACH for their treasury operations. But when KeyBank rolled out its push payment solution in partnership with Screenshot and Ingo Money, it signaled that customer demand and the business opportunity are too real to ignore.

Using a platform like Ingo Money, banks can seamlessly integrate push payments into their treasury offerings so that clients have a simple activation option for instant disbursements. This helps cement long-term client relationships while adding new lines of revenue.

As this turn toward instant money continues to aggressively expand and fulfill on predictions like those by Atos, push payments will be a top priority for nearly every company and industry in 2019. For those already in trial, 2019 will be the year they move into full-scale production. For teams that are new to the technology, now is the time to begin due diligence. Companies that do not offer real-time disbursements by this time next year run the risk of being outpaced by the competition.

A large, white, sans-serif number '2018' is centered on a grey background. The number is composed of thick, rounded strokes, with the '0' being a solid white circle. The '1' is a simple vertical bar. The '8' has two distinct circular loops. The overall style is clean and modern.



JUMIO[®]

DEAN NICOLLS
Head of Market Strategy

The Year Of...

THE BREACH

Let's face it, we don't even raise an eyebrow anymore when we hear that another business has been breached. 2018 has been a tumultuous year for data breaches, highlighted most recently by Marriott's data breach that affected 500 Starwood guests. But that was the last of a long string of breaches, including:

- **Marriot/Starwood:**
500 million customers
- **Quora:**
100 million users
- **Facebook:**
50 million users
- **British Airways:**
380,000 customers
- **Ticketmaster:**
40,000 customers

These breaches were obviously massive, collectively impacting over 650 million users. What's also troubling is the types of data that was breached. Names,

addresses and email addresses were stolen, but so was more vital data, including hometowns (Facebook), passport numbers (Marriott) and encrypted passwords and data imported from linked networks when authorized by users (Quora).

Making matters worse is the long lag between the date of intrusion to the date of public disclosure. With Facebook, the vulnerability took more a year to report, and for Marriott, it took more than three years. That's valuable time that consumers didn't have to protect their existing online accounts from hackers.

Your initial thought may be: "I'm glad I'm not on the management or security team for that organization." But those breaches impact the entire world of payments.

For example, Facebook admitted that the hack affected those who use Facebook Login (a single sign-on application that allows users to interact on other websites) to access other online accounts and third-party applications like Instagram and Spotify. That means the fraudsters can

use those hijacked account credentials to log into your website if you've enabled this method of single sign-on authentication.

More concerning is that a healthy chunk of these breached records end up on the dark web, where other cyber-baddies use that information to assume new identities that can unleash fraud on your organization by creating seemingly legitimate accounts or taking over existing accounts. In fact, a recent report published by cybersecurity firm Shape Security showed that 80 to 90 percent of the people that log into a retailer's eCommerce site are hackers using stolen data.

This also impacts the identity verification solutions that payments companies have embedded into their onboarding (new account setup) processes. Many businesses rely on government-issued IDs like drivers' licenses and passports to verify that people are who they claim to be. When the bad guys also have access to our personal identity information, they can create new banking accounts, new social media accounts and a variety of online

services under a forged identity ... and wreak a lot of havoc.

That's why digital businesses must take extra identity proofing measures, upfront, to ensure that they definitively establish the digital identities of new users – the chances of fraudulent accounts are now significantly higher as a result of these breaches, so it will be a vital security measure.

This also has big implications for more traditional forms of authentication, including knowledge-based authentication (KBA). What street did you grow up on? What's your mother's maiden name? These are the types of KBA questions that many online businesses still rely on when users reset their passwords or log in from a foreign location. KBA is still inexplicably one of the most common means of identity verification. Unfortunately, thanks to these large-scale data breaches and the dark web, most of the answers to those supposed secret questions are now known by fraudsters, making it easy to sidestep this type of authentication – rendering it useless.

Thanks to a barrage of advertising by LifeLock and Experian, most consumers are painfully aware of identity theft. Unfortunately, for businesses, the list of cyber threats is long, varied and growing. Hackers are evolving rapidly and targeting the payments industry through their end users' stolen identities.

The payments industry must adapt and take biometric-based identity verification seriously, and begin re-engineering their processes to protect their ecosystems, risk exposure and bottom line.



DANIEL HOUSEMAN

Partner, Advisory

The Year Of...

DEMOCRATIZATION

Payments innovation in 2018 has leveled the playing field, with new entrants, the rise of the customer, and cross-border connectivity enabling real-time payments almost anywhere and at virtually any time.

New Entrants

2018 has seen a plethora of new providers and innovative services launched in the market and the continued growth of some of the nimble and innovative players.

This year has shown that a “one size fits all” approach no longer works for banks, or their customers. While traditionally banks have controlled the infrastructure, hardware and operating systems for financial services, new entrants may have the agile infrastructure and innovative propositions to personalize to individual consumer needs. New entrants may not have the need for any on-premise infrastructure, instead leveraging cloud infrastructure/third-party service providers and partners to rapidly deliver new products and services at scale.

This has caught many incumbents off guard – lack of insight into customer behavioral data to provide targeted offerings, and a lack of innovation to create new customer experiences, has opened the payments landscape for new entrants. To better compete with new industry entrants, traditional banks or payments providers need to capitalize immediately on new technology capabilities and offer payment methods that provide the best customer experience, enrich existing data sets and minimize friction, facilitating seamless economic transactions.

Existing giants such as SWIFT and Mastercard are all focused on the impact of heightened customer expectations and technological innovation on their businesses, launching ancillary services such as digital ID, and looking to play a deeper role through control and ownership of payments infrastructure. And on the other side, players such as Verency are hoping to provide banks with new capabilities and solutions, without expensive changes to existing payment

rails, hardware or connections through their white-label, open-API platform.

Incumbent banks that understand and accept their legacy infrastructure and process constraints are now increasingly looking at FinTech partnerships as a capital-efficient and expedited way to bring new capabilities and experiences to market. BBVA, for example, has invested \$1B in FinTech M&A and is a major shareholder in Atom Bank and solarisBank.

The Rise of the Customer

The democratization of data through technology innovation and regulation has created the perfect conditions for technology-savvy consumers and future-looking businesses to demand a fully tailored, digital experience in their daily transactions.

A wave of neo-banks such as Revolut have well and truly captured the attention of consumers globally, with digital-only offerings that support the cross-border needs of global citizens. There's also been a race to remove payments in retail, with

7/11 and Alibaba all trialing checkout-free in-store shopping experiences.

With greater transparency comes greater freedom and choice for customers, and various open banking regulations around the world have accelerated this trend. For example, the implementation of PSD2 across Europe is opening up financial data to FinTech firms and developers across all sectors, revolutionizing the way these entities work. By using account aggregation and payment initiation technology, banks and FinTechs alike can now offer users the ability to view their balances, make payments and receive tailored advice through their chosen channel or app, even if their actual accounts are held by another bank. This provides visibility of the financial products that are suited to customers' actual needs and behaviors, placing customers rightly at the heart of the payments revolution.

Small to medium-size enterprises in particular have much to gain from open banking. They tend to have complex financial arrangements and lack tools to fully extract benefits of the data they

generate from customers. In fact, KPMG spoke to 1,000 SMEs in the U.K. as part of their "Is Open Banking Open for Business?" report, and found that SMEs continue to trust high street banks over startups with their financial data. However, almost a year since open banking went live in the U.K., SMEs still need some convincing of the benefits and use cases that it will bring for them, with almost half saying they would not share their data under open banking.

Cross-Border Connectivity

Innovation in international payments, once considered highly inefficient, expensive and opaque to both the sender and receiver, has been a significant step forward in 2018 – democratizing access to payments in the B2B, C2C and government space. There is clearly a huge demand for access to affordable and secure international payments in the market, with Transferwise, a C2C global money transfer service, reporting in the black for the second year running and valued at over \$1B USD.

With 40 countries around the world now operating faster payment schemes successfully, the next step is enabling cross-border payments – spreading innovation globally and accelerating the access to financial services for all, from corporates to small businesses to under-banked populations. There is growing ambition to link up domestic systems to deliver cross-border, real-time payments. From smoothing the path for tourist spending to designing better remittance systems for foreign workers, cross-border RTP offers greater access and choice to consumers, businesses and governments on both sides.

SWIFT gpi has been a breakthrough in 2018, enabling settlement of fast, cross-border transactions, with the exchange of valuable data and full traceability. For businesses and governments, the ability to connect goods and services to real-time, affordable payments anywhere and at any time promises to be hugely transformative for trade and reducing friction in supply chains. For example, in the not-too-distant future, SWIFT gpi could facilitate an Australian miner raising an invoice

and requesting a payment from a steel manufacturer in China, and for settlement to occur within minutes.

Our view is that each of these three models for cross-border payments will need to be assessed on a range of criteria. These include network usage and acceptability, inter-operability with payment networks, real-time processing capability, payment transmission mechanism, regulation, the cost of implementation and operation and inclusivity.

Looking ahead to 2019, these trends will continue as technology, innovation and regulation continue to level the playing field. The lack of standardization that still exists between financial institutions and jurisdictions increases cost and complexity for everyone in the ecosystem. In our view, increased competition and collaboration between financial institutions, development of common standards in areas such as data models and message structures, and greater cross-border connectivity and patterns of interaction would accelerate the democratization of payments.

A large, white, sans-serif graphic of the year '2018' is centered on a grey background. The numbers are bold and have a slight shadow effect, making them stand out prominently.



The Year Of...

UTILITY

’Twas December 2017, and all through the global payments space, APMs and traditional banks were in a neck-and-neck race. Fanatics were shouting the old ways were dead, while visions of blockchain danced in their heads.

(Record scratch)

So, uh, that’s not exactly how 2018 turned out. A year ago, enthusiasts spoke of a world powered by cryptocurrencies and challenger banks, with alternative payment methods (APMs) such as Klarna, Google Pay and other digital or contactless methods taking over for venerable cards (which have crossed the half-century mark!). However, those changes have come slower than many hoped – and in the case of blockchain, not much at all has changed. Nope.

In 2017, everything had a little bit of blockchain on it. It was like a spice for chili (mmmm, chili). Now this technology is getting its comeuppance as banks and innovators come to realize that blockchain does not solve all problems for all people at all times. Distributed ledger is a legit

cool new tech and has many applications, but there are many more problems that can – and should – be solved in different ways.

The year 2018 turned out to be less about dreaming and more about doing what needed to be done, glamorous or not. We (the royal, payments we) did not reinvent the payments experience this year. Rather, we focused on the same old things we’ve been focusing on for 45 years. We’re solving the same old problems – we’re just making things work a little bit better than before.

In short, the distractions of 2017 fell away to make way for a year of utility. Here’s where the innovation really happened in 2018.

Getting Weird With “Business as Usual”

Innovation is the exciting thing that gets people out of bed in the morning. However, this year we learned that there was unfinished business with the old way of doing things, and these seemingly

straightforward problems are actually far more complex than anyone thought.

The payments space is ending 2018 with a maniacal focus on declines, reconciliation and fraud. Solving these “boring” problems requires a different sort of innovation.

There are great fraud platforms out there, yet few, if any, are friendly for use in everyday business. Declines solutions are largely operating at the edges of volume and attention and still could take years to bear fruit.

We (the personal Modos) felt that people could start to lower their decline rates instantly and easily by simplifying processor relationships. We decided to start with simple, “bump-your-head” routing so that transactions declined by one processor would simply (and automatically) try the next path, and the next, until they could be processed successfully.

It’s not elegant, but it sure is useful. Just ask the folks who are experiencing double-digit decline rates.

In 2018, offer to help banks and merchants fix declines, reconciliation, and/or fraud, and you have them at hello. Support for alternative payment methods for both making and accepting payments then becomes icing, not the core value proposition that many (including the writing and editing us) were expecting this time last year.

Reimagining APMs as Utilities

APMs remain a critical and growing part of business for anyone dealing with payments – particularly online. However, they have not yet taken over as much of the world as expected, so some players have been looking for ways to reimagine alternative payment methods as more than just payment methods.

Google Pay is a great example of this. This year, Google relaunched its Pay product not as an end-all-be-all payments system, but as a utility. Now, Google Chrome and Android devices can store card credentials for users and populate them into payment forms.

This has benefits on both sides: It saves the user from having to type his information every time he shops online, and it keeps the merchant from ever seeing its customers’ sensitive data. Google isn’t processing payments like Apple. It’s just making them easier and more secure for one end user at a time.

Also this year, we turned PayPal into a disbursements endpoint for Bank of America and Deutsche Bank, and continued our work with Klarna to enable accepting this super-smooth APM – even for merchants that have not done an integration with them (the beautiful Swedish them).

Meanwhile, back in the Valley, PayPal and Braintree made it possible to access all of their payment services, plus their cool sister company Venmo’s payment services, in one checkout button.

Our good friends at Klarna have unbundled their checkout, and are offering all the components of their unique capabilities to all comers. Now that’s a great gift to all of us (the payments geeks us).

Finally, we worked with Etihad Airways this past summer to enable passengers to combine loyalty points with value from their credit cards. Those points can now be used not just to make an airline reservation, but also at other partners.

We look forward to making loyalty points even more useful in 2019 by transforming them into a currency that can be used beyond the single entity where they were earned. Ditto gift cards, and probably some existing payments technologies that we haven’t mentioned yet.

This year’s efforts, and likely next year’s as well, are all about making things that already exist work better together. These new innovations aren’t about creating from nothing; they’re about leveraging the utility we (the payments stalwarts we) already have, no matter how limited that old infrastructure may be.

(Drop the needle on the record)

Merry payments to all and to all a good nine...teen.



motus

CRAIG POWELL

CEO

The Year Of... **MOBILITY**

Travel and expense (T&E) management is a major focus for businesses when it comes to payments, especially as the gig economy continues to rise, in which more workers are hitting the road in their own personally-owned vehicles to do their jobs – e.g., insurance sales representatives visiting client offices, pizza delivery drivers and more.

While fuel cards are not really new to the T&E market, companies have offered these valuable payment cards to their workers who drive for business for quite some time now. But an increasingly younger and mobile-first generation entering the workforce means that plastic fuel cards have been pulled out from wallets and now reside on smartphones in app form. Not only that, but GPS and mobile technology tied to fuel card apps has become more sophisticated, alerting drivers to where they can fill up for the cheapest rate and enabling businesses to cover those employee costs upfront without manual paperwork delaying the repayment process. This ultimately puts more money

back into both the business' and workers' wallets.

Another T&E issue companies must address is mileage reimbursement. Since more workers are driving their own personal vehicles for work, employers must reimburse them for the rightful business mileage they are owed, or otherwise open themselves up to unnecessary, and costly, class-action lawsuits (RadioShack, Starbucks and Uber are a few examples of these lawsuits).

However, most businesses have been slow to automate their T&E processes, and mileage specifically, instead relying on antiquated and often manual processes for managing employee expenses. This is problematic because the younger millennial and Z generations are not only part of the existing workforce, but many are starting to shift into managerial positions. And these tech-savvy workers expect their workflow to run smoothly, quickly and efficiently. Rather than being confined to the traditional office desk, they would prefer instead to work remotely, often choosing to travel in their own

vehicles, while using smartphones and other mobile technology to connect them back to HQ to complete business tasks.

Further, with the unemployment rate down, companies will lose valuable talent to the competition if they don't start equipping the evolving mobile workforce with technologies that help them do their jobs more efficiently. This younger workforce desires to work and get paid in a manner that is most suited to their on-the-go lifestyle. But in order to avoid potential lawsuits as previously mentioned, companies need to reimburse their mobile workforce by accounting for both the fixed (insurance, license and registration fees) and variable (fuel, maintenance) costs

associated with driving for business. This can be a daunting task if done via outdated manual processes.

The only way companies can reimburse their workers fairly and accurately according to these new demands is by using the same technology that can be found in any car – GPS-enabled smart devices, mobile apps and cutting-edge software. These technologies enable businesses to more accurately and fairly reimburse their employees for the exact cost of driving for work, ensuring that the proper miles are tracked, collected and stored for a more accurate reimbursement payout.





VIJAY SONDHI
CEO

The Year Of...

OMNICHANNEL

Omnichannel: every payments provider offers it, every merchant needs it and every consumer has come to expect it, but everyone's definition of it is drastically different and has varying degrees. No matter how you define it, it's inevitable that delivering an omnichannel solution has many layers.

Large-scale retailers and massive national brands have been able to deliver a seamless omnichannel experience across all channels, including eCommerce, retail, mobile and unattended. From buying online and returning in store to paying and collecting loyalty points across all channels, these retail giants have it down to a science. They also have the resources to build out the necessary infrastructure for it in-house.

Small and medium-sized businesses (SMBs), on the other hand, have been left at a huge disadvantage to match the same experience. Unlike large brands that can enroll consumers into loyalty programs, SMBs don't have the clout to do that and need payment credentials to identify a

unique consumer. The only way this can be achieved is if the encrypted credentials are tracked across all payment channels, including eCommerce, retail, mobile and unattended.

When you look at the payments landscape over the past year, there has been an overwhelming number of omnichannel solution providers, NMI included. The problem is, the vast majority of the available solutions are siloed and leave the SMB with disparate solutions across all of these payment channels. The bigger problem with that is where the data lies.

If the SMB, or its payments partner, is working with one provider for mobile and a different provider for retail, the data will always remain on two separate platforms. This in turn leaves the merchant with a bunch of data that they will never be able to tie together, and the consumer with a far from seamless experience, which is a lose-lose for all parties involved.

The key to leveling the playing field for SMBs is a unified token on one platform. This one detail is the key piece that's

missing from the vast majority of the industry's definition of omnichannel. Being able to offer payment solutions for every channel is one thing, but being able to unify all of those channels with a single tokenized payment credential for a given customer is an entirely different one. The latter is what everyone wants, but the former is as far as most solution providers can go. It's less about omnichannel solutions and more about omnichannel data.

Looking into 2019, omnichannel isn't going anywhere and it's inevitable that the definition will continue to evolve. With more and more new ways to pay popping up and the rise of the Internet of Things (IoT), having a unified token across all channels is going to become increasingly important to continue to meet consumer expectations.

2018




**PAYMENTS
CANADA**
JUSTIN FERRABEE
COO

The Year Of...

BENEFITS

There has never been a more interesting time for payments, and Canadian businesses took notice in 2018 – to their costs of payments, the way they pay and the potential benefits of modernizing payments.

First off in 2018, businesses took notice of a major risk of not modernizing their payment and payment processing options: the cost.

Our recent study, in partnership with EY, demonstrated that processing payments costs Canadian businesses between \$3 billion and \$6.5 billion annually. This cost took into account a number of factors: labor-intensive matching of customer payments to invoices, poor visibility into supply chain and collections, limited predictability of cash inflows and outflows, difficulties in tracking cross-border payments and continued reliance on manual processes and legacy technology.

The business of payments also had a real impact on the Canadian economy, to the amount of \$16.4 billion.

The payments ecosystem had gone relatively undefined in relation to contributing to Canada's gross domestic product (GDP). Payments Canada, in partnership with Northcard, quantified that space, with the results estimating that the payments industry generated \$16.4 billion in 2016 to the national economy. To put that in context, the payments industry contributed 1 percent of Canada's GDP, which – according to Stats Can – is higher than our crop production and arts and entertainment sectors, and only slightly below truck transportation and food services.

Small businesses also realized there are competitive benefits in modernized payments, with more than 80 percent indicating they want to provide more payments choice for their customers at point of sale, and more options for their back-office payments to suppliers and vendors. And it's no surprise why: Canadian small businesses are directly impacted by the payment options they have available, including how they acquire customers, maximize margins, track

performance and drive fulfillment rates at the point of sale.

Meanwhile, consumers continued to leave traditional forms of payment – like cash and checks – at the wayside in their demand for faster, easier and more convenient ways to pay. They chose to tap a card or phone at point of sale, send more funds electronically through Interac e-Transfers, and make more purchases online and in-app, which in turn drives businesses to innovate and offer more payment options.

To meet these needs for Canadians today and well into the future, Payments Canada is working closely with the payments

ecosystem in the development and implementation of a modernized payments infrastructure that will provide faster, safer, and more data-rich payment options.

This modernized infrastructure will include a new high-value payments system, batch retail payments system, real-time payments rail and adoption of the ISO 20022 data standard – a key component in bringing immediate value for Canadian businesses.

Through ISO 20022 adoption and modernization, businesses will benefit from enhanced analytics, faster reconciliation, reduced risk, greater interoperability across platforms

and increased adaptability to future innovations, to name a few of the benefits.

In 2018, many businesses began working closely with Payments Canada to explore how the implementation of ISO 20022 or a new real-time rail will support them by improving business processes, reducing costs and providing better services to their customers.

In their thirst to better understand the future state of payments, business leaders showed even more interest to connect with industry leaders, innovators and challengers. This interest was reflected in a marked increase in attendance at our annual conference, the Payments

Canada SUMMIT (TheSUMMIT.ca), which hosted a record-breaking 1,600 delegates, many of whom were keen to participate in discussions with FinTechs and other communities within the payments space.

As Payments Canada looks to 2019, we are very excited for the future of payments – for businesses, consumers and the Canadian economy. We look forward to continuing to work closely with all stakeholders to ensure they are maximizing the benefits of a modernized payments infrastructure.

**All data has been sourced from research available on payments.ca*



PSCU

CHUCK FAGAN

President & CEO

The Year Of...

EXPERIENCE

2 018 was the year of elevated focus and investment in experience for credit unions, banks and other providers. For years, the payments industry has focused on delivering value through rewards programs and competitive card products. But in 2018, things took a turn with a renewed emphasis on enhancing and improving the consumer payments user experience, from point-of-sale transactions to online purchases and everything in between.

In a recently released survey of more than 1,000 consumers, PSCU confirmed that credit cards remain the preferred way to pay. Financial institutions should undertake all efforts to protect the confidence that exists in the credit card channel and ensure exceptional experiences for consumers using this payment method. While card offerings should remain competitively priced and tied to strong rewards or loyalty programs, the entire experience surrounding the card – not only at the point of sale itself, but also potentially with a contact center or mobile banking app – needs to be frictionless and extremely positive in order

for the cardholder to continue viewing their bank or credit union institution as a trusted partner.

Without question, adoption of contactless is changing the payments landscape. As this year comes to a close, large issuers have already begun to announce their investment in this space, with more financial institutions soon to follow suit. Visa estimates that 100 million contactless cards will be in circulation in this country by the close of 2019 and that 65 percent of U.S. merchants will accept contactless payment methods by the end of next year. This shift is directly related to providing a better experience for the consumer. Currently, paying with a chip-enabled plastic card amounts to a 10-second transaction. In comparison, using contactless “tap and go” technology will reduce that time down to one second. Adoption of this payment method is expected to quickly pick up speed, and subsequently could also impact the usage of mobile wallets. Consumers will have access to more payment options at the click of a finger and the ability to pay with a simple tap, ultimately making the

purchasing experience for all consumers at any point-of-sale location simple and seamless.

Additionally, 2018 saw an ongoing emphasis on security and fraud mitigation, which will continue into the new year. A recent study by PSCU validated that security is the one of the primary considerations for consumers when choosing a card product. Authentication is one way credit unions and banks can meet this consumer need and ensure transactions are more secure. For example, consumers might still have to answer a pre-established security question

to access their account, but they might also receive a confirmation code via text message to help verify and validate they are who they say they are. Exploring biometrics and other new authentication and artificial intelligence (AI) technologies is a viable and valuable exercise in the ever-changing payments landscape to ensure consumers are protected, along with a financial institution's own brand and assets.

Data and analytics have impacted the user experience this year and will play an important role in managing the experience for years to come. Learning gathered by

data and analytics tools enable financial institutions to deliver the right products to consumers at the right time, positioning them for maximum success in their financial lives. Moving forward, data and analytics will become increasingly important when it comes to thwarting fraudsters. Delivering more robust analytics for predictive modeling – as well as a continued investment in and deployment of multi-layered fraud mitigation tools – will help fight fraud and identify spending trends. Enriched card alerts and controls provide a secure member experience through all channels, while preventing fraudulent

activity and keeping the credit union or bank card top-of-wallet.

The total experience surrounding card usage and consumers' interaction with their financial institutions is of the utmost importance. Credit unions, banks and other providers would be remiss to ignore the influence a consumer's needs and experiences have on their payments decisions and usage. Providing an unparalleled and seamless experience drove investments and development in 2018 and will continue to do so well into the future. The payments industry must keep up.



 sift science

KEVIN LEE

Head of Trust and Safety

The Year Of...

MOBILE COMMERCE

Mobile internet usage continued to blow up in 2018 – and that includes shopping. According to Statista, mobile commerce is on track to comprise over 63 percent of eCommerce sales in 2018, and an estimated 73 percent by 2021. In her report earlier this year, Mary Meeker asserts that mobile payments are becoming easier to complete. Recent data supports this, as sales by mobile phones this holiday are expected to reach \$23.7 billion – which is about 55 percent higher than last year. Nearly three in five visits to retail sites came from mobile devices, Adobe found.

Peer-to-peer (P2P) payment platforms have also skyrocketed in popularity as more people move to cash alternatives. More than 75 percent of millennials have used online or mobile P2P payments, followed by 69 percent of Gen X and 51 percent of baby boomers. Aite and Early Warning, owner of the P2P platform Zelle, have found that P2P payments will triple by 2020 as people further embrace the ease of splitting checks, paying rent,

paying back friends and more via their phones.

Additionally, today's mobile shoppers have more choices than ever, whether that's digital wallets, online marketplaces, or on-demand ridesharing apps. Thanks to quick and seamless shopping experiences offered by companies like Amazon, users now also expect all of their online experiences to be on-demand, fast and friction free.

We've also seen that merchants that ranked well on PYMNTS' own Checkout Conversion Index Report had the fastest, most streamlined online checkouts compared to the 30 merchants with the lowest scores, who had inconsistent checkout experiences. This is worth noting given that the same rules apply in mobile, which become extremely important given that 39 percent of shoppers will use "buy now" buttons via smartphones this holiday season.

With such an array of choices and ever-increasing expectations around checkout, we're experiencing a rising tide of fraud.

According a Juniper study, losses from online payment fraud will reach US\$48 billion by 2023; up from the US\$22 billion in losses projected for this year.

In 2018 alone, we've seen payment fraud ramp up alongside increased usages of buy online, pickup in store (BOPiS) and contactless, in store mobile payments. We've also seen Venmo get hit with payment fraud and high-profile data hacks (Zelle, Quora, Marriott) that could very well lead to account takeover (ATO) events. Unfortunately, with the increased surface area around online payments, there are even more for elements for companies to protect, but fraudsters only have to find one way through to maximize losses.

Fortunately for our industry, it's never been easier to provide fast, streamlined

experiences that drive growth while eliminating payment fraud. New developments in machine learning, behavioral analytics, and biometrics are enabling dynamic friction – an approach to checkout that allows retailers to instantly adjust the payment experience based on a user's risk profile. So, for example, if you trust a user, you don't need to ask for things like billing address, CVV or SMS (two-factor authentication). If a user has a higher-risk profile, you'd want to dial up the friction with 3D Secure or a secondary verification check.

While 2018 may be the year of mobile commerce, here's hoping that next year is the year that mobile commerce benefits the merchant experience as much as customers.

A large, stylized graphic of the year '2018' in white text, centered on a grey background. The numbers are bold and have a slight shadow effect, making them stand out prominently.



Trulioo
The Identity Bureau

ZAC COHEN
GM

The Year Of...

DATA ECONOMY

In recent years, the industry has been buzzing with mentions of “data,” with headlines continuing to tout its world-changing potential. While the ability to accumulate data is ever-increasing, the capability to properly analyze it has not kept pace.

The amount of data created annually is forecast to grow to 180 zettabytes (or 180 trillion gigabytes) in 2025, up from less than 10 zettabytes in 2015. More connected devices sending more data points is leading to a flood of actionable data that needs parsing, filtering, sorting, interpreting and analyzing – all without a corresponding gain in human resources and talent to effectively understand what it all means.

Fortunately, developments in machine learning have matured to the point that patterns are now automatically detectable. This year has seen a noticeable inflection point, where artificial intelligence (AI) is quickly producing real-world results, and the digital universe will never be the same.

In the field of digital identity, better data analysis leads to quicker, more accurate verification processes. The results produce more seamless compliance procedures that mitigate risk – without hindering the onboarding experience – while growing the customer base and enabling expansion into new markets.

Specifically, the lack of easy, secure access to trusted identity data sources has kept payment companies and financial institutions from extending their services to emerging markets because they were unable to verify the identities of customers living there. Not too long ago, identity verification was only attainable through manual processes that were slow, prone to error and not suited for the modern digital economy, in turn excluding underserved groups and hindering organizations’ efforts to expand.

Advances in machine learning and AI, along with the emergence of the API ecosystem, have created a new generation of solutions that automate the customer onboarding process and, more crucially, allow companies to verify the identity of

their customers no matter where in the world they are located. Today, we are witnessing the emergence of an era in which identity data is poised to catalyze the global economy by enabling more customers in more countries to become a part of the financial system. Even in digitally forward-thinking countries, there are currently more than two billion people around the world who are “unbanked” or “underbanked” due to a lack of credit history or traditional forms of ID, or because they happen to be a migrant without the right papers. Moreover, 1.1 billion people around the world don’t possess an ID, which makes it difficult for them to open an account.

Those without traditional markers of identity – such as passports and birth certificates – or those without a credit history, such as newly landed immigrants and other thin-file customers, cannot gain access to vital services like bank accounts, loans or credit cards. However, when they do gain access, they are required to pay disproportionately higher fees due to the risks they pose. As a result, nearly half of the world’s adult population operates outside the global economic and financial system. The world’s poor live and work in what is known as the informal economy. While they may have limited money, they still save, borrow and manage expenses, but they rely on informal means, including cash, family members or friends, money

lenders, etc. Oftentimes, these means are insufficient, high-risk, expensive and unreliable.

Digital identities coupled with developments in AI, such as machine learning, may be the answer to help shape the future to be more financially inclusive, as well as play a critical role in reducing extreme poverty.

Machine learning, specifically, can spot patterns quicker, more accurately and at scale. Additionally, APIs allow payment companies and financial institutions to access data sources around the world by verifying the identities of their customers, enabling them to grow quickly and tap into more opportunities.

As technology increasingly helps companies better comprehend large data sets, including unstructured data, we are finally entering an era where Big Data can truly help payment companies and financial institutions offer more value to customers globally. Ultimately, ID verification technology gives payment companies and financial institutions access to unique data sources from emerging markets where traditional sources, such as credit, government or utility data, are non-existent or limited. By taking a global approach to financial inclusion, consumers can access financial services across borders just as easily as they would locally – fueling a true global data economy.



VISA
CARLEIGH JAQUES
*SVP, Global
 Head of Merchant
 Digital Products*

The Year Of...
OMNICHANNEL

For decades, the interaction at the point of sale was wholly focused on one thing – processing a transaction. It was an experience anchored in a fixed location that was dependent on and defined by power and connectivity capabilities. Over the past 10 years, the point of sale has been evolving as mobile technology has trained consumers to expect richer interactions while enabling the processing of the transaction to “come to them.” As technologies transform commerce, consumers expect greater flexibility, responsive functionality and more control at the point of sale.

Mobile-Enabled, Mobile-First, Mobile-Only

Businesses are moving from a mobile-enabled to a mobile-first and, in some environments, to a mobile-only customer engagement model. Cloud computing provides the foundation for transforming transactions from a hardware-based engagement to one that is increasingly software-centric. At the same time, merchants now see the point of sale as a branding opportunity. For some, that

means a completely seamless experience that happens “behind the scenes,” while others are enabling highly personalized, experiential transactions.

User-experience leaders are taking a radically different approach to the point of sale. Amazon is skipping the traditional POS entirely to create a wholly digital self-checkout experience in its Amazon Go stores. Starbucks enables its most loyal customers to order-ahead their perfect, fully tailored cup of coffee (grande half-caf, triple-foam latte with almond milk, please), and pick it up from a special station without ever interacting with the in-store POS. From the consumer perspective, this type of seamless, integrated engagement is their baseline expectation, and makes the digital, in-store, online, and in-app interactions virtually indistinguishable from one another.

Payments are becoming a more intuitive and embedded part of the experience, whether it’s a subscription service like Netflix, a quick-service restaurant like Pizza Express in the U.K. that allows in-app payments at the table or a service provider

like Taiwan Taxi that gives customers the flexibility to pay by card in the car or in-app.

Consumers expect the businesses they frequent to know them and make life easier for them, even if it's as simple as having their card on file. Deeper engagement across all channels offers merchants greater insights into customer behavior and the intelligence that can drive better recommendations and stronger relationships. Through CyberSource, Visa is enabling this integrated commerce by providing digital-first acceptance tools for merchants, underpinned by cloud-based transactions, card-on-file systems and tokenization.

Enabling the Omnichannel Experience

To deliver on customer expectations, merchants need solutions that work across online, mobile, and physical

environments to provide fully integrated commerce solutions at scale. Omnichannel customers are particularly important for merchants, since recent data has shown that although omnichannel shoppers represented only 7 percent of customers in 2018, they accounted for 27 percent of all sales.¹ Additionally, customers who take advantage of multiple sales channels have a 30 percent higher lifetime value than those who use only one.² As a cloud solution, CyberSource helps merchants make omnichannel, integrated commerce scalable, enabling transactions and capturing data that facilitates a longer-term relationship with consumers.

It's the best of all worlds – consumers get the flexibility and control they want, while merchants foster deeper relationships, connected across every channel for even more opportunity.

¹ Criteo. Global Commerce Review, United States Q1 2018.

² Greg Girard, Leslie Hand, Spencer Izard, and Miya Knights. IDC FutureScape: Worldwide Retail 2015 Projections.

A large, stylized graphic of the year '2018' in white, bold, sans-serif font. The numbers are set against a dark grey background that occupies the right half of the page. The '2' and '0' are connected, and the '1' and '8' are also connected. The overall design is clean and modern.



whitepages PRO

ROB ELEVELD

CEO

The Year Of...

ACCELERATION

Payments 2018 was a year of accelerated disruption. The industry lived in the shadow of the Revised Payment Service Directive (PSD2), the upcoming EU regulation that will formalize the way banks and financial institutions securely share customer account information, to give customers payment platform freedom. This has been a long time coming, especially as the changes within the payments industry have accelerated in recent years.

Historically, cash was king. Then came checks, credit cards and wire transfers, with the most recent market explosion in several digital payment options. Services like PayPal, Venmo and Apple Pay have simplified the transfer of funds and become quite commonplace. The proliferation of these platforms has made it easy for money to be transferred among peers, consumers and businesses, both domestically and globally. Traditionally, banks were primarily focused on the domestic market and services. Now, consumers expect these services to work a lot more seamlessly internationally than they used to.

As a result of this global adoption and expansion, there are now far more variables to contend with in the world of payments. In just a few clicks on a mobile phone, consumers can easily order and pay for cross-border goods and services. This creates a growing level of complexity for vendors, payment providers and banks that underpin these modern services, including the increase in sophisticated fraud attacks and customer demands for minimal friction and ease of use. In the past couple of years, computing power has basically become free, allowing fraud rings to systematically hammer away at eCommerce sites with parallel machines running automated scripts. To further complicate matters, low consumer switching costs and high expectations of service mean that these global transactions must work seamlessly; if the experience is unnecessarily complex, most consumers will find a new provider.

We are in a world where you need to accelerate the sophistication of your identity verification methods to address these new challenges. The solution to this complexity is cutting-edge

technology that can keep pace with modern transformation: machine learning. While machine learning has become more accessible in recent years, it still requires data science expertise and solid fundamentals. A successful machine-learning model requires data – and not just any data, but that which is normalized, in consistent formats, and from around the world to address global needs. That's where Whitepages Pro shines. We align with the needs of the payments industry by providing input of the highest caliber to machine-learning models and the data scientists running them.

Our data is used to provide a low-friction, sub-second identity verification experience

for good customers while segmenting questionable transactions into a higher-friction (and lower-risk) path. Smart use of verification data ensures that risk models can streamline good customer experience, fight fraud and evolve with the times.

The acceleration of technology, global transacting, and identity verification needs has given us a year of “the best of times and the worst of times.” There comes a great responsibility to better connect the digital and physical identities of customers to create seamless online experiences, while protecting people and businesses from the impacts of fraud.

A large, stylized graphic of the year '2018' in white text, set against a grey background. The numbers are bold and modern, with the '0' and '8' having a slight shadow effect.



wirecard

SUSANNE STEIDL

CPO

The Year Of...

CONNECTION

Throughout the course of this year, we've been getting to know consumers and businesses on a deeper level, with numerous studies worldwide into consumer preferences and retailers' eCommerce capabilities. From this point of view, we've come to understand that payments in 2018 has been, to an even greater extent than we've seen in our digital reality so far, the year of connection.

Everyday experience bears out the research: We have moved rapidly beyond a card- and bank-centric model and into a more decentralized, user-focused, mobile ecosystem. And while an emphasis on connection may seem like small beer at first – it's been a buzzword of the industry for some time – it has been in 2018 that we've seen real evidence of the need for and promise of connection. Emergent infrastructures that intricately link data, devices, currencies, products, and consumers are showing up in new applications such as voice ordering, in-store AR/VR features and much more.

To keep pace with our lifestyles, every aspect of payment must be connected. Payments must be able to run seamlessly on and through any device. It's an opportunity for all of us – payments providers as well as our clients and partners – to innovate data- and technology-driven ideas that will ensure consumer satisfaction, operational efficiencies, universal access and data security.

This was a year when we saw the connection deepen between consumers and digital payments. The world is moving closer to cashless, and the speed and convenience of digital and mobile banking and payments have transformed the way consumers shop and manage their finances. Wirecard's recent Consumer Insights Survey indicated a significant break away from cash and plastic and toward a greater reliance on digital and automatic payments. Easier, more efficient banking and payment apps have provided more options for how, when, and where consumers earn, spend, and save – and have opened new possibilities for sending and receiving payments anywhere in

the world. Going forward, customer satisfaction will be defined by frictionless, reliably connected payment options.

Consumers' shift into a digital mindset is built on a solid foundation of data, built over nearly a decade. And so the next level as an industry now is to choose the technologies that can most efficiently connect data and use them to create secure applications that add demonstrable convenience to consumers. One use case with immediate benefit has been putting contactless payment in public transit systems, airports, and parking meters. Travelers don't have to stop at a kiosk, or refill a meter – they just go.

Such visible everyday connections are possible only when vital data and security features are seamlessly connected as

well. Biometric technologies became ubiquitous this year, with fingerprint and other identification features built into most payment and banking apps, as well as some live kiosks and POS systems. They have proven the most intriguing methods for connecting data, technology, banks, providers, suppliers, retailers and consumers.

Meanwhile, digital connections on the mobile and online landscape have accelerated by orders of magnitude. Mobile payments are on the rise all over the world, particularly in China and North America, for things like coffee and takeout – the services that get us all through the day. We are creating a new world in which our payments recede into the background, freeing consumers to attend to things that matter most to them.

In a recent international Wirecard survey, nearly one in five respondents said a loyalty or rewards scheme was one of the top three factors in whether they would become a return customer. With borderless payments fast becoming another new normal, we presented a cross-border loyalty scheme that enables merchants to provide customers with access to rewards on multiple currencies, anywhere in the world. Again, we see that it is not simply one technology or application that consumers respond to; rather, it is our ability to connect the customer's experience – invisibly – across currencies, borders, devices and services.

To that end, providing new forms of omnichannel connectivity is key to providing the flexibility consumers increasingly expect – in fact, this is

perhaps the area of greatest opportunity. In Wirecard's 2018 holiday global consumer survey, nearly all shoppers said that they jump from live retail store to mobile to web and beyond as a matter of course throughout the retail journey. That alone is not new; it's the numbers that stand out: 75 percent of consumers in the U.K., 77 percent in Germany, 92 percent in Brazil and 79 percent in the U.S. On the other hand, 87 percent of U.S. eCommerce providers say their current technology stack will be obsolete by 2020. We must connect businesses with both the technology and the services to meet consumer needs.

Such cutting-edge technologies are the way forward, from 2018 to a single, global, connected future.



STEPHEN GOODRICH
CEO

The Year Of...

MILLENNIAL

Millennials make up a quarter of the population, but spend more than \$200 billion annually, accounting for 30 percent of all retail sales. While millennials' loyalty is considered harder to gain, once gained, their loyalty is fierce. Millennials gravitate to unique experiences and are part of a highly-connected social landscape, making them an attractive consumer segment for most retailers. In 2018, we saw the power of millennials gaining momentum in the marketplace.

Experience-Driven

Millennials are motivated by experiences and intangible value, rather than simply economic value. Experience is almost a form of currency to millennials: "I worked remotely from a beach this morning before hiking all afternoon." "I went to Chipotle and built an awesome burrito." Millennials are thoughtful and patient consumers, less susceptible to immediate gratification.

Eschewing Credit

Millennials are very debt-conscious. Often faced with heavy student loan burdens, and having watched their parents chafe under the stress of mortgage payments, car payments and also revolving debt, this generation is averse to borrowing. They see it as "bad business." Millennials are more likely to have a savings account than a credit card. In fact, it is estimated that nearly 64 percent of millennials don't even have a credit card, preferring to spend what is in their bank account.

Brand Loyal

Millennials are very brand-oriented, using "brand comfort" to guide their purchase decisions and experiences. Millennials often define themselves by the brands they buy: "I'm a Starbucks person." "I'm an Apple person." This depth of personification defines the ultimate in loyalty and brand power, and it is achieved when any consumers, particularly millennials, feel the brand "knows them." One of the most powerful elements of the loyalty journey is often accomplished with targeted, specific offers, driven by data.

Hyper-Connected

Millennials have wider reach and more influence than ever through a variety of socially-networked relationships. Their likes and dislikes, loyalty or disloyalty, through a variety of platforms is hugely powerful and influential. Understanding these dynamics and strategizing for – and marketing to – them requires a keen understanding of the millennial segment. For those brands that deftly navigate this relatively new territory, the rewards can be immense.

2018

PYMNTS.com

[PYMNTS.com](#) is where the best minds and the best content meet on the web to learn about “What’s Next” in payments and commerce. Our interactive platform is reinventing the way in which companies in payments share relevant information about the initiatives that shape the future of this dynamic sector and make news. Our data and analytics team includes economists, data scientists and industry analysts who work with companies to measure and quantify the innovation that is at the cutting edge of this new world.



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