



Welcome to the **January** edition of *ACT News – Driving Insights*. This complimentary service is provided by ACT Canada. Please feel free to forward this to your colleagues.

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Articles

1. QUANTUM COMPUTING WORKSHOP IN TORONTO

Join ACT Canada and evolutionQ at Twenty Toronto Street Conferences on March 7th for an in-depth look at the growing impact the field of quantum computing has on the payments industry. Over the past decade, quantum computing capabilities have significantly increased and this has a direct influence on the changing nature of payments.

Session will consist of three customized sessions:

- The first will introduce the potential positive applications of quantum computers, and the fundamental elements of the problem posed by them, including an outline of the impact on blockchains.
- The second session will outline the proposed solutions, their strengths and weaknesses, and some of the key challenges to practical deployment.
- Lastly, the third session will focus on quantum risk management, including quantum risk assessments and migration strategies available to address the threats.

A sample of topics covered in the full program:

- What is a quantum computer? Why do people want to build one?
- How does it impact cybersecurity?
- How can we defend against quantum attacks? What is the process and timeline? What is the state of readiness of deployable quantum-resistant cryptography?
- Available solutions, including open-source.
- How real is this threat, and when do we need to start doing something?

If you would like to attend, please register here. Members attend for **\$495** (+HST) with every fifth registration being free in a single group registration. Non-members attend for **\$795** (+HST). For further information or any assistance with registering, please contact Madeleine Hind at madeleine.hind@actcda.com

2. CONFRONTING MONEY LAUNDERING AND TERRORIST FINANCING: MOVING CANADA FORWARD

Source: Canadian Credit Union Association (12/19/18)

In November, the House of Common's Standing Committee on Finance released its report *Confronting Money Laundering and Terrorist Financing: Moving Canada Forward* (the report). The report examines Canada's AML regime, and makes recommendations to the Government of Canada on legislative and regulatory gaps, the exchange of information and the privacy of Canadians, ways of strengthening intelligence capacity and enforcement measures, as well as the modernization of the regime. Below is a very brief overview of only a few of the 32



recommendations in the report. If adopted, these recommendations will expand the scope of the current AML/ATF regime and have a significant impact on the businesses operating in the industries affected by these changes, including credit unions.

Beneficial Ownership and Politically Exposed Persons

The Report recommends a pan-Canadian beneficial ownership registry be created for all legal persons and entities who have at least 25% ownership or shares or voting rights. As well, reporting entities would be required to identify beneficial owners and determine if they are politically exposed persons or associated with any, and prohibit any account opening or financial transactions until the beneficial ownership has been ascertained. Also, the report recommends clarifying the statutory definition of politically exposed persons and moving to a risk-based model of compliance for politically exposed persons.

Exchange of Information and Privacy

The Report makes several recommendations regarding the sharing and exchange of information to assist in money laundering investigation, as well as between federally regulated financial institutions provided that FINTRAC is notified; and partnering with industry leaders who are investing in technology that tracks suspicious activities. Expanding the Scope of the Proceeds of Crime (Money Laundering) and Terrorist Financing Act. The Report recommends expanding the scope of the PCMLTFA to include lawyers and other professionals, armoured cars and white lab ATMs, real estate and sellers of luxury items.

Strengthening Intelligence Capacity and Enforcement

The Report also recommends strengthening the capacity and enforcement powers of FINTRAC to better facilitate money laundering investigations, and enabling law enforcement agencies to use geographic targeting orders. As well, making it a criminal offence for an entity or individual to structure transactions to avoid reporting requirements; and engaging with provinces and territories to develop a national view of AML.

Canadian Credit Union Association is a member of ACT Canada; please visit <https://www.ccu.com/>

3. GEMALTO TO PRODUCE SECURE AND INNOVATIVE HEALTHCARE CARDS FOR QUEBEC

Source: Gemalto (1/16)

Gemalto and the Société de l'assurance automobile du Québec (SAAQ) have been chosen to produce secure and innovative health insurance cards for the Régie de l'assurance maladie du Québec (RAMQ). RAMQ delivers 2.3 million healthcare



cards to citizens, and the SAAQ provides 1.7 million driver's license and identity cards through production with Gemalto.

Optimizing government services across industries

By choosing the SAAQ and its existing contract with Gemalto, the Quebec healthcare authorities can avoid duplication and promote sharing of expertise between agencies. The province can also leverage the existing infrastructure and issue both healthcare cards and driver's licenses at the same time, maximizing cost savings and ensuring quicker delivery to their citizens.

A focus on security and convenience for Quebec's citizens

Gemalto's secure card will be the first of its kind to undergo embossing and laser engraving at the same time. Combined with a cutting edge card body with built-in security features, this process greatly improves the reliability of Quebec's healthcare card. Gemalto also provides the full implementation and maintenance of SAAQ's personalization infrastructure. This enables the SAAQ and RAMQ to offer Quebec citizens a seamless and speedy renewal service when obtaining their new driver's license and healthcare card.

"The unique opportunity to provide both healthcare cards and driver's licenses is perfectly suited to Gemalto's expertise with over twenty years of issuing secure documents. Being the first to emboss and engrave at the same time provides more options to our customers who have legacy infrastructures for validation and allows us to provide a lower risk of fraud and stronger, longer lasting cards to residents" Steve Purdy, vice president of State and Provincial Government Programs, Gemalto.

Gemalto is a Member of ACT Canada; please visit www.gemalto.com

4. WHAT AUSTRALIA CAN TEACH THE WORLD ABOUT REAL-TIME PAYMENTS

Source: PYMNTS (1/2)

On the face of it, the lure of real-time payments might seem like an inevitability. The concept is gaining traction and deployment across any number of avenues and several countries. In a recent example, in the U.S., a number of leading tech companies have become vocal in their support of a real-time payments (RTP) network, to be created under the leadership of the Federal Reserve and different from what has been previously proposed by the big banks. The advocacy comes in the wake of real-time payments infrastructure deployment and use in countries such as the United Kingdom and Singapore.

Among that pantheon lies Australia, where the New Payments Platform (NPP) debuted earlier in the year as a way to accelerate the movement of funds between



consumers and businesses. Just last month, a reserve bank in Asia-Pacific said that cash and checks are on their way to becoming a “niche” payment in the wake of an uptake in digital payments, and with more than 400,000 transactions logged across the platform. The confluence of infrastructure enabling always-on transactions and the willingness of various participants in commerce to move away from paper (bills and checks) and coins hardly seems a coincidence.

Key Drivers in Place

The road has been long and winding for Australia’s march toward real-time payments, tracing its genesis back to 2012. And in an interview with Karen Webster, Daniel Houseman, partner of transformation program management at KPMG — which helped guide the NPP’s development — took note of the returns on investment accruing to early adopters in financial services and beyond. The success of the NPP, Houseman said, comes from a number of key drivers. He took note of the support of regulators in helping foster collaboration between far-flung stakeholders, setting clear goals in NPP’s timetable.

Competition between new entrants and established players in financial services, with an eye on developing and improving the way their services work, also has led to NPP’s growth. A third driver, said Houseman, is tied to consumer demand, which has meant balancing the twin goals of making sure the platform works well operationally and technically while at the same time allowing for commercial success, enough so that the banks and service providers are motivated to actually use NPP. The relatively nascent platform offers some lessons on how to approach real-time payments, as a concept and as a (rather complex) project.

Cross-Border Challenges

The balancing act described above becomes especially apparent when it comes to cross-border transactions that make their way across time zones and currencies, the goal of any robust RTP system. “From where we are now,” Houseman told Webster, “the jump to having country-to-country transfer from one consumer to another or from a consumer to a business or a business to a business doesn’t seem that far away.” But to have that true global presence, he said, standardization is necessary. Different countries operate on different messaging systems, a challenge that can be addressed by standards such as ISO 20022.

“Every country will operate slightly differently,” said Houseman, “but if you get the basics of that right and the mapping of that right ... interoperability is helped from a messaging perspective and a translation perspective.” Alignment is also necessary in collaborative efforts by governments and financial services firms to work with effective fraud, AML and sanctions screens, where efforts can be fragmented.



Signing On, With ROI in Sight

As NPP was designed to be “a commercial success for the banks and not simply a cost,” Houseman stated that the most visible use cases come as both speed and improved range of services prove valuable for customers — especially corporate customers. He said “businesses are crying out for [RTP]” as part of their everyday interactions with one another. “You are more likely making a commercial return [as a financial service provider] on the business side than on the consumer side. Businesses are looking for better ways to manage their cash flow and working capital.”

A real-time payments system, Houseman noted, allows companies to manage cash in and cash out activities at any time of the day or night, or over the weekend. Plus, he added, there is integration with accounting packages — and in a B2B setting, running this software embedded with real-time functionalities can generate instructions to pay suppliers, making supply chains more efficient. Use cases that are gaining ground in Australia, Houseman said, include property settlement — purchases of houses, for example. RTP options help remove several error-prone and manual parts of transactions.

“We are also starting to see utility companies offering new real-time payment options, as opposed to using a credit card or debit card,” he pointed out. For consumers, Houseman noted that online transactions are increasingly being done directly from bank accounts and bypassing card accounts, as a substitution effect comes amid greater trust in NPP. Incidentally, he added, the data shows there has been no increase in fraud that can be traced to the use of NPP.

The common denominator, whether transactions are done amid consumers or businesses, is that “all of these use cases are providing one of two things,” said Houseman. “They are either providing a new offering or they are providing a smarter way to provide a service that is now available.” And, he added, since NPP exists as an intersection of several payment rails, it can support a range of payment options and providers. “There is definitely room for coexistence,” he said. “The future is one where there are multiple payment methods,” tech-enabled and interoperable, even between countries, as transactions become ever more global and mobile. “The benefits and the upside of RTP are there, and they are real — and sooner rather than later, people will expect them.”

5. ETHEREUM CLASSIC: HACKERS HIJACK BLOCKCHAIN IN RARE '51% ATTACK'

Source: Sky News (1/8)

A rare “51% attack” on the cryptocurrency blockchain may have been successful, raising huge questions about its security. Unknown hackers may have successfully hijacked the Ethereum Classic blockchain through a rare so-called “51% attack”. Cryptocurrency exchanges including Coinbase have frozen trading of the token



amid fears that the exceptionally rare blockchain attack has been executed. According to Coinbase, the reorganisation of the blockchain has led to the attacker taking control of tokens worth almost £400,000. Dr Patrick McCorry, assistant professor of computer science at King's College London, told Sky News it was important to distinguish Ethereum - the second-largest cryptocurrency behind Bitcoin - and Ethereum Classic, which is in the top 20 and split from Ethereum in 2015.

"The underlying technology of a cryptocurrency, the blockchain, is responsible for recording all transactions on the network," Dr McCorry explained. "It gets this name because it is a chain of blocks, and every block is simply a list of authorised transactions. "In Ethereum Classic, a transaction is only considered 'final' and 'confirmed' if it is in the blockchain with the most blocks." The blockchain is powered by individuals "mining" transactions - using computer power to transmit information to other users - for which they are rewarded with newly minted units of the currency. Due to these newly minted units of the currency, cryptocurrency mining can potentially be a very profitable business - although the volatility of the currencies and the difficulty of successfully adding a block makes it a risky investment. The blockchain is intended to be a distributed, transparent, and immutable ledger which uses cryptography to mathematically verify transactions and ensure everyone's trust in the currency.

However, it has long been theorised that an attacker who controlled more than 51% of the mining on the network could purposefully choose to double-spend certain coins. Many businesses saw their fortunes rise - and then fall - with those of Bitcoin and some people even lost their homes. In a 51% attack, the attackers would create a fork in the network by transmitting conflicting information to different users - allowing them to send the same coin to multiple parties. Dr McCorry said: "The issue in a 51% attack is that a single person has more than half the network's computational power (i.e. they have a much bigger warehouse of computers) and they can create blocks faster than everyone else. None of the traders care about it. Look at the price - it took "a bit of a hit", but its mostly recovered in a day.

Great lesson - you can attack a coin, perform a double-spend, and most traders won't care. "What happened in Ethereum Classic is that a single person managed to repeat the entire network's effort for 100 blocks, create a longer blockchain and reverse a transaction that paid out around \$500,000," Dr McCorry explained. One mining group controlled up to 60% of the Ethereum Classic network during the course of the supposed attack, although investigations are ongoing as to the results of it.



6. HOLIDAY SHOPPING AND INTERNATIONAL TRANSACTIONS HELP BOOST SPEND IN CANADA BY 3.0 PER CENT IN FINAL QUARTER OF 2018 LOWEST QUARTERLY GROWTH IN FOUR YEARS COULD SIGNIFY TREND FOR 2019

Source: Moneris (1/24)

The final quarter of 2018 wrapped up with a 3.0 per cent increase in spend over the same period in 2017, according to Moneris Solutions Corporation Canada's largest processor of debit and credit payments. This increase marks the lowest for 2018, and the lowest quarterly growth in four years. "Every quarter of 2018 saw an increase in spend, but the increases overall were more tempered than in years past," said Angela Brown, President and CEO of Moneris. "This is a trend we expect to continue throughout 2019, with spending to be cautious and growth to be moderate." Provincially, the final quarter of the year was a period of highs and lows. Quebec and British Columbia saw above average increases of 5.4 per cent and 4.1 per cent in spend when compared to the last three months of 2017. Saskatchewan and Newfoundland, on the other hand, saw drops of 4.5 per cent and 3.2 per cent, respectively. Ontario came in close to the national average with a 3.3 per cent increase in spending over the same period in 2017. While moderate, these figures demonstrate stronger growth than those recently posted by Statistics Canada. Both Canada's GDP¹ and retail sales² rose by 0.3 per cent October over the previous month. Retail sales decreased 0.9 per cent in November³ on account of lower sales at gasoline stations and motor vehicle and parts dealers.

Holiday spend increases

Despite a busy holiday shopping season, October saw the largest spend increase in the quarter, with spend up 5.2 per cent, as compared to November (up 3.8 per cent) and December (up 1.6 per cent). The traditional shopping days of Black Friday, Boxing Day, and the final Friday before Christmas all saw year-over-year increases.

Black Friday was the season's biggest day in terms of volume with an increase of 6.0 per cent over last year; however, December 21, the final Friday before Christmas, was the busiest in terms of number of transactions. This year, the Saturday before Christmas – December 22 – took the number three spot in terms of dollars spent, while Boxing Day dropped to fourth, but still showed a volume increase of 5.57 per cent over the same period in 2017.

Contactless usage still on the rise

The final quarter of the year saw Canadians continuing to embrace contactless payment solutions, with a 30.14 per cent increase in volume and a 27.68 per cent increase in transactions over the same time in 2017. While these increases continue to shrink quarter-over-quarter as more Canadians adopt contactless usage, the total share of contactless usage continues to rise – nearly half (47.75



per cent) of all transactions during the quarter were made through contactless channels.

International travellers to Canada spending more

Spend from international cards rose by 8.02% per cent over the same period in 2017. Travellers from the United States continued to spend the most in Canada, with an 8.47 per cent increase over the last quarter of 2017. China, the United Kingdom, Australia, and Mexico rounded out the top five countries in terms of spend volume, with year-over-year quarterly increases of 5.20, 15.76, 4.71 and 9.63 per cent respectively.

Moneris is a Member of ACT Canada; please visit <https://www.moneris.com/>

7. G+D MOBILE SECURITY POWERS ORANGE ESIM SERVICE FOR CONSUMER DEVICES MARKET ACROSS ITS AFFILIATES

Source: G+D Mobile Security (12/20/18)

Giesecke+Devrient Mobile Security, the market leader in eSIM management, is providing Orange with eSIM management services to their customers. An increasing number of next generation-connected objects do not rely on a pluggable SIM but are instead capable of connecting to cellular networks via eSIM technology. This trend covers a large range of devices, including but not limited to, smart watches, smartphones, tablets, cars, and some smart home devices.

Leader in eSIM Management technology, G+D Mobile Security has worked closely with Orange to implement services that will allow them to digitally transform the customer journey and experience. G+D Mobile Security's eSIM management platform provides Orange customers with secure, seamless and on-demand connectivity throughout the lifecycle of their devices. Customers can remotely activate devices and add or remove services at their convenience – reducing the need for customer service intervention. Thanks to this breakthrough transformation, several Orange affiliates were among the first European carriers to commercially launch eSIM devices since May 2018, with the Huawei Leo2 smartwatch, the Apple Watch version 3 and 4, the latest iPhone (XS / XS Max / XR) & iPad Pro 11 / 12.9', up to the Samsung Galaxy Watch. Additional eSIM devices are also in preparation, and will also be supported with G+D services. "We are committed to providing our customers with the best and most innovative products and services," said Philippe Lucas, Vice President of Innovation and Technology at Orange. "With remote, on-demand activation of their e-SIM devices, our customers leap into the future of connectivity and connected objects. We are pleased to partner with G+D Mobile Security and take our customers to the next stage thanks to their eSIM management technology."

"Our unparalleled experience in eSIM management is driving the market toward a new norm, where remote provisioning and lifecycle management of devices will



become commonplace,” said Carsten Ahrens, Chief Executive Officer of G+D Mobile Security. “We are excited to support Orange in its digital transformation with our eSIM solutions to further their relationships with their consumer clients.”

G+D Mobile Security is a member of ACT Canada; please visit <https://www.gi-de.com/en/ca/>

8. MASTERCARD EVOLVES ITS BRAND MARK BY DROPPING ITS NAME

Source: MasterCard (1/7)

Digital Payment Company Adapts to a Digital Environment in a Move to Become a Symbol Brand

MasterCard today announced that it is dropping its name from its iconic brand mark in select contexts. The interlocking red and yellow circles, referred to as the MasterCard Symbol, will now stand on its own across cards using the red and yellow brand mark, acceptance marks at retail locations both in the physical and digital worlds, and major sponsorship properties. As the consumer and commerce landscape continues to evolve, the MasterCard Symbol represents MasterCard better than one word ever could, and the flexible modern design will allow it to work seamlessly across the digital landscape.

“Reinvention in the digital age calls for modern simplicity,” said Raja Rajamannar, chief marketing and communication officer at MasterCard. “And with more than 80 percent of people spontaneously recognizing the MasterCard Symbol without the word ‘MasterCard,’ we felt ready to take this next step in our brand evolution. We are proud of our rich brand heritage and are excited to see the iconic circles standing on their own.” The red and yellow interlocking circles have been the hallmark of the MasterCard brand for more than 50 years, symbolizing the brand’s promise to connect people to Priceless possibilities. The instantaneously recognizable circles are a powerful symbol that bring people closer to their passions and give them the confidence and trust that their transactions are secure.

“We live in a time where, increasingly, we communicate not through words but through icons and symbols. MasterCard has had the great fortune of being represented by two interlocking circles, one red, one yellow, since its founding in 1966, said Michael Beirut, partner at Pentagram. “Now, by allowing this symbol to shine on its own, MasterCard enters an elite cadre of brands that are represented not by name, but by symbol: an apple, a target, a swoosh. MasterCard’s two interlocking circles have always represented their commitment to connecting people. Now, that commitment is given greater presence by MasterCard’s status as a symbol brand.”

MasterCard is a member of ACT Canada; please visit <https://www.mastercard.ca/en-ca>



9. ICC SOLUTIONS IS FIRST WITH EMVCO TEST TOOL STANDARDISATION

Source: *ICC Solutions (1/1)*

ICC Solutions, the leading provider of payment testing solutions and services, is the first test tool vendor to receive formal qualification from EMVCo for the first two, of three, technical components defined for the L3 Card Simulator test environment. Designed to simplify the process for Level 3 testing, EMVCo has defined a new L3 test tool process to align, streamline and standardise existing processes for Level 3 test tool development and subsequent qualification.

Derek Ross, Head of Sales and Business Development commented, “This latest qualification confirms ICC Solutions’ leadership position in the provision of test tool environments facilitating efficient testing to the Acquiring community worldwide. The same ease of use and extensive automation is now available for EMVCo L3 testing on the ICCSimTMat terminal test tool platform used to perform EMV Level 3 chip terminal integration testing for brand accreditation.”

ICC Solutions is a member of ACT Canada; please visit <https://www.iccsolutions.com/>

10. IRELAND CRYPTO REGULATION LOOMS

Source: *PYMNTS (1/7)*

The volatility of cryptos — and the emergence of any number of blockchain and tokenization projects through the last year — has invited fresh regulatory scrutiny of digital currencies. In Ireland, reported CryptoGlobe, the Irish cabinet has approved legislation that will bring more regulation to the sector. The site noted that the new rules still await passage by the country’s legislative body. The bill, tied to cryptos, is part of the Fifth Anti-Money Laundering (AML) Directive, which is part of a pan-European mandate to, among other things, combat terrorist financing through Know Your Customer (KYC) and other measures.

With the new directive, cryptos fall under that mandate. In addition, the legislation is focused on crypto exchanges and wallet providers, with Ireland’s legislation — known as the Criminal Justice Amendment Bill of 2019 — also letting the Criminal Assets Bureau and Garda access bank records amid money laundering investigations, as reported by TheCryptoUpdates. Separately, in India, the action toward crypto regulation seems to be ... inaction. The new year dawned with the government’s statement that there is an “absence of a globally acceptable solution, and the need to devise a technically feasible solution” ... and it all warrants “further study.”

The statement comes as cryptocurrencies are still not being recognized as legal tender. Against that backdrop, there are, at present, no plans for the nation to issue a state-backed cryptocurrency, as the government has pointed toward continuing



concerns over money laundering and cyber risks. One caveat, as noted in this space last week, is that India is among several nations that make up the Financial Stability Board (FSB), which has 20 nations on its roster. The FSB said it has reviewed the rapid growth of crypto and has found that “crypto assets do not pose risks to global financial stability currently.” That may open the door to revisiting the issue, as the U.S. Securities and Exchange Commission (SEC) may have its own set of regulations forthcoming in 2019, where those regulations can serve as a de facto template for crypto adoption in other nations moving forward.

Beyond crypto and into the more traditional banking realm, Denmark — with headlines still swirling from the \$230 billion money laundering scandal via Danske Bank — will, through its government, propose new ways for the financial regulator to be more removed from banks it supervises. The Financial Times (FT) reported that the idea of “regulatory capture” exists, where authorities are influenced by the financial entities that are being supervised. Denmark’s Business Minister Rasmus Jarlov said the government would look into ways to strengthen and separate the Financial Supervisory Authority (FSA) at the beginning of the new year, according to reports.

Jarlov said, “We are considering this challenge [of regulatory capture]. We have not decided on specific measures. During the beginning of 2019, we will do a lot of work to strengthen the FSA in Denmark, based on the experience of this case and also based on the experience of other countries. We have specifically asked for a neighbor check on this challenge: How to have the right balance between getting competent people from the banking sector into the authorities without having [conflicts of interest].” In the U.S., Jelena McWilliams, chair of the Federal Deposit Insurance Corporation (FDIC), told Reuters that banks have enough capital to deal effectively with ongoing market volatility.

“Frankly, recent market movements have not given us any reason to be concerned,” she said. “Banks are well capitalized. Actually, they are superbly well-capitalized at this point in time,” and added that “nothing that happened in December gave us concern.” She said a review into the system known as CAMELS has started, where ratings in place are tied to capital adequacy, earnings and risk sensitivity, among other factors. The ratings, said Reuters, “are of critical importance” to bank management, as low scores can lead to additional regulatory scrutiny and action.

11. FRAUD PREVENTION: WHEN FRAUD RISK IS CREDIT RISK IN DISGUISE

Source: PYMNTS (1/24)

Here’s a test: What’s fraud? Also, what’s a simple and legitimate matter of credit risk? Those aren’t trick questions, but rather a reflection of the realities when it comes to digital criminals and their global networks. (Hint: The criminals know the difference.) Those questions also speak to the seemingly impossible tension in the



world of payments and new card accounts: how to onboard and authenticate consumers as quickly and seamlessly as possible, while also protecting them and the institution from fraud. At the heart of the issue is a “gap” that (for now at least) favors criminals, not issuers, but more about that in just a bit. In a new PYMNTS interview, Karen Webster discussed that fraud situation — and how it might change with better digital technology — with Fang Yu, CTO and co-founder of DataVisor.

Fraud Getting Worse

In many cases, Yu told Webster, the fraud situation is “much worse than before,” especially when it comes to ID theft and account takeovers. Fraudsters are smart and experienced enough to, say, defeat those security-question defenses, and there is no doubt that countless user name and password combinations, along with other stolen data, are widely available on the digital black market. That’s to say nothing of insiders who help with fraud, or fraud that involves legitimate holders of credit cards simply deciding to ignore their debts.

However, that’s hardly the whole situation. Criminals have learned how to exploit situations in which fraud might — initially, but for a meaningful period of time — look like an issue of credit risk, which can make so much of fraud prevention reactive, not proactive. While the attention of fraud prevention technology and professionals might be sparked by a suspect transaction, for instance, by the time the monetary damage is likely to have been done, criminals have retreated back into their protective shadows, essentially immune to arrest and prosecution.

Bad Timing

Timing, too, works against issuers and financial institutions, especially when it comes to the fraud-or-credit-risk determination. “You are not sure if a card belongs to a good user or bad user until they don’t pay it back,” Yu said. Even with the benefits of cutting-edge fraud prevention technology (machine learning, for example), there is often a “gap of time to allow fraudsters to change their” moves. (Think, perhaps, of an old-time criminal on the run in the days of analog crime detection, always changing up where they sleep, and not keeping to any predictable movements or schedule.) Indeed, to the bank, an instance of fraud could very possibly seem, at first, like just another missed payment.

In such cases, the fraud prevention effort “is already a month late,” Yu said. Add in the pressure for instant onboarding — an increasing demand from consumers, and a path to profit for issuers — and that can provide another advantage for fraudsters. After all, “there is high competition for good credit card users,” Yu said, and no issuer wants to put too many barriers in the way of gaining such customers. That mindset can also encourage fraud prevention professionals — either themselves or via the rules they write for their fraud prevention software — to provide enough room in which fraudsters can operate, lest too much friction turn away real or potential cardholders.



So, what can work in favor of those going after fraud? Well, for one thing, there is truth in numbers (in this case, a higher ability to spot fraud patterns with more data), even amid the pressures of quick or instant onboarding and that window that fraudsters can exploit. Fighting fraud on one specific card is not the easiest job in the world, no matter the mindset. Yet, with unsupervised machine learning (that is, artificial intelligence), there exists a much greater chance to take in data from multiple cards and cardholders, find patterns that point to possible fraud, then stop it from happening. That can work more efficiently than trying to stop fraud attempts during onboarding, when the issuer and its technology might have enough data to make the comparisons needed to determine whether the applicant is, indeed, a legitimate potential customer.

Baseline Advantage

“After the card [issued establishes] baselines to prevent account takeovers, that’s actually easier” than preventing fraud during the application phase, Yu said. That’s not the only factor: Fraudsters gain more profit over the long term by exploiting data from multiple accounts, cardholders and cards, which makes them susceptible to pattern analysis. Doing so in real time is also key to fraud prevention — no one wants to be left behind by that “gap,” of course. Grammar nerds and other pedantic people keep offering reminders that “data,” as a word, is plural, not singular. That translates well into the world of fraud prevention: The more data, the sharper the patterns, and the greater the chance of gaining back a step or two on those digital criminals. The sharper the patterns, the better odds of being able to tell fraud apart from legitimate cardholder issues.

12. HOW PAYMENTS AND COMMERCE WILL DRIVE TRANSPORTATION CHANGES IN 2019

Source: PYMNTS (12/26/18)

The coming year will bring not only advances in the connected vehicle ecosystem — changes that will directly involve payments and commerce — but further developments in how consumers share and buy cars. And as that happens, the worlds of auto finance and insurance will likely undergo shifts as the rest of the industry changes. Payments in 2019 will drive much of the innovation the automotive world. That was the main message in recent PYMNTS interview with Bisi Boyle, VP of IoT global connected car at Visa. The opportunity is clear. The Digital Drive Report, a collaboration earlier this year between PYMNTS and Visa, found that 135 million U.S. commuters already make or influence \$212 billion annually on commerce in their cars as they drive to and from their workplaces and homes. Much of that is, of course, ordering ahead — food, coffee, even parking and gas — via mobile devices that they bring with them in their car. Two-thirds of those commuters who do that today would do so more often if in-vehicle commerce was available in their cars.



Vehicle Sharing

Car sharing, too, will likely take on a more prominent role in 2019. One reason to believe that? In November, the European Union's competition authority approved a plan by luxury carmakers Daimler and BMW to combine their car-sharing businesses. This new deal includes car-sharing units car2go and DriveNow, as well as other ride-hailing, parking and charging services, and allows for Daimler and BMW to each hold 50 percent stakes in the venture. The ride-hailing business is due from some significant advances in the coming years as well. That's because both Uber and Lyft are expected to launch initial public offerings in 2019. Not only that, but those players, along with other operators, are trying to make scooter-sharing more mainstream even as some politicians and lawmakers push back on that mode of transportation. Not only that, but Fair, the car-leasing startup that earlier in 2018 acquired the leasing portfolio of Uber, has raised \$385 million in venture funding. Claiming to hold the keys to the future of car ownership, Fair has a mobile app and website that makes it easy to search for and purchase a car while staying within a predetermined budget. Through the app, users search for a car and sign the lease without the need to go to a car dealer.

Car Buying

For consumers who want buy their own cars and trucks, the purchase experience is changing. In the second half of 2019, USAA launched an augmented reality (AR) mobile application that aims to make car buying easier for its members. The app utilizes Blippar's car recognition and AR technology so members can simply point their mobile device at any vehicle (year 2000 or newer) and instantly see the car's information, including purchase price, cost of insurance and any similar vehicles for sale in the area.

"Trends show that consumers are increasingly using digital channels to complete the entire car-buying process," said Heather Pollard, vice president of USAA Auto Experience. "By testing this new augmented reality capability, we hope to transform and enhance our members' experience by making it as easy as possible for them to access the information they want, when they want it." In fact, nearly half of consumers begin their car-buying process online, according to a report. Seven out of 10 consumers are more likely to choose a dealership that offers online car buying, according to car-buying platform Roadster. To help attract these customers, Roadster allows car dealers to bring the car-buying process — or at least some elements of it — online. As described in a PYMNTS interview with Roadster Chief Marketing Officer Michelle Denogean, new technology enables car buyers to search a dealership's inventory on multiple devices and receive upfront pricing information. Software also allows consumers to build a deal, value their trade-in and add service and protection plans to their purchases. In addition, shoppers can add accessories like cargo nets and cross bars.



Car buying is not all that's changing. Insurance companies are still figuring out to use and employ data that could help craft policies in the emerging age of connected cars. The payments for the insurance generally belong to the insurance company. But what happens when the sensors and other data-collecting and data-transmitting technology installed by the OEM play a part in insurance costs? For instance, a driver whose sensors show he or she to be safe and cautious might end up paying a lower premium than someone whose foot is glued to the gas pedal as he speeds through a school zone.

Financing and Insurance

Auto finance will undergo shifts as well. Get ready for one recent analysis called a “new layer of complexity,” at least when it comes to leasing, thanks to connected vehicle technology. That’s because “conventional leasing models, whereby contract prices are determined by fixed parameters — i.e. mileage requirements, car choice, duration, residual value — will no longer be enough,” according to Daniel Layne, founder and CTO of Quotevine, which sells automated finance technology. “With over the air data or software updates, connected cars have the potential to become smarter, and therefore actually increase in value throughout the duration of the contract as new functionalities are added to the car,” he said. The new year will bring more advances and changes in the automotive world — and with them, more options for payments and commerce.

13. EU WATCHDOG TO DECIDE ON DATA AVAILABILITY

Source: PYMNTS (12/26/18)

The European Data Protection Board will soon decide if financial regulators around the world can freely engage in the exchange of cross-border information.

The European Union’s General Data Protection Regulation (GDPR), which gives consumers more control over their private data, went into effect in May. But finance regulators in the United States have said that the regulation is hindering the exchange of cross-border information, with the Securities and Exchange Commission (SEC) revealing that it has had to delete personal data from certain items to make exchanges, according to Reuters. In fact, since GDPR came into play, regulators have used a “public interest” exemption to exchange information for certain cases such as insider trading or manipulating market benchmarks. The European Securities and Markets Authority has agreed to allow this exemption to continue until “administrative arrangement” proposed by global regulators is approved. The European Data Protection Board (EDPB) is expected to make a decision on that early next year.

“This will be discussed and dealt with in the first quarter of 2019,” a spokeswoman for the EDPB said. Although finance regulators are worried about breaking GDPR laws, just last week it was reported that only 29 percent of EU firms have fully implemented the regulation’s rules. A report from IT Governance found that while



as many as 60 percent of firms surveyed were “aware” that they must respond to data subject access requests, only 29 percent had plans in place to address the rules. That lack of full compliance could lead to penalties that include 4 percent of a fined firm’s annual top line.

“It is discouraging to see so many organizations understanding the GDPR and its applicability to their businesses but failing to comply,” said Alan Calder, founder and executive chairman of IT Governance. “May 25 should have been the wakeup call, but it’s not too late to begin your compliance journey. The time is now.”

14. UNLOCKING THE WORLD WITH BIOMETRICS

Source: IDEMIA (12/14/18)

Biometric data takes on many different forms today, simplifying and securing our daily lives. The fingerprint was the original form of biometric identification, and remains the most utilized today, but facial recognition is also increasingly used. Certain circumstances require the use of multi-biometric verification for a stronger match, combining fingerprints with iris or facial recognition for instance. Vincent Bouatou, Director Innovation Lab at IDEMIA: "Biometrics has seeped into many aspects of our lives. Whether you’ve unlocked your smartphone using your fingerprint, crossed a country border or even walked down the street in a connected city, biometrics has touched a part of your life – and most likely simplified it or secured it in some way"

It all started with the fingerprint

Our fingerprints are entirely unique and remain unchanged throughout our lives – as we grow, age, gain or lose weight, it never changes (the same can’t be said for an identity photo). For this reason, biometrics began with the capture and use of fingerprint data. For years, police collected fingerprints left behind at crime scenes and cross-referenced the evidence with a database of persons of interest. In recent years, biometric technology in this field has undergone a huge revolution fueled largely by digitalization. With video investigation tools, the police experts can now scan camera streams to identify an individual’s face on a crowded street or efficiently search through hours of video footage for clues after a major security incident.

Biometrics on a global scale

Our fingerprints are entirely unique. As biometric technology continues to evolve, societies find more ways to integrate it in the everyday lives of citizens. Today, biometric data gives citizens the fundamental right of being recognized by their government and opens access to a multitude of services, such as social benefits, medical care or financial services. And while fingerprints remain the go-to form of biometric data, there are some specific circumstances that have given rise to a dual verification process.



In 2009, IDEMIA joined an ambitious project led by the Indian government: attributing a unique ID number to every resident in India – a country of more than 1.3 billion people. The Aadhaar program has been extremely successful; and one of the key success factors of this program was to use multiple biometric credentials to address a well-known challenge with the fingerprints of a subset of the population. Indeed, fingerprints for example of manual laborers, over time, can become difficult to scan or match. This is why the Aadhaar program integrated iris scans as a secondary source of identification, thereby bolstering security for every citizen. In some countries, the use of biometrics is also an efficient means for governments to reach out to citizens and grant them access to fair elections. When citizens in rural areas of Africa need to access voter registration, IDEMIA's MorphoTablet 2i provides the all-in-one solution. This mobile biometric terminal is capable to enroll citizens using three types of biometric data (fingerprint, face and iris) and, given its portability, it is the ideal tool even in the most remote areas.

Biometrics take flight

In air travel, facial recognition is the gold standard. Many factors determine which form of biometric data is the most appropriate in any given scenario. For example, in air travel, facial recognition is the gold standard. When the ICAO international standard first required a photo as the mandatory biometric element for all passports, it set the trend for the industry. Today, biometric technology in airports relies mainly on facial recognition systems to verify traveler identities. A wonderful example of biometrics at its best is the terminal T4 at Changi airport in Singapore. To keep up with the thousands of people passing through Changi each day, the airport relies on facial recognition technology: from self check-in to replacing boarding cards and even payment at duty free shops. This increases security, optimizes resources at the border and streamlines the passenger journey.

Everyday biometrics

Widespread adoption of biometrics through smartphones. While the advantages are many, we're only just scratching the surface of possibility. In recent years, biometrics has seen widespread adoption following its integration into smartphones. The fingerprint scan first, then facial recognition have made biometrics a part of our everyday life. Today, our biometric data unlocks our phones with innovations such as IDEMIA's 3D Face for instance, but use cases are multiplying exponentially – from securely identifying ourselves via our smartphone to open a bank account or remotely sign up for a new mobile data plan to replacing our payment card PIN code with our fingerprint.

The benefits of everyday biometrics will continue to drive adoption rates. Tomorrow, we may find ourselves in a world free of passwords. A world where passwords for any site or any service are replaced by something that is highly secure and never forgotten: our own biometric data.



IDEMIA is a member of ACT Canada; please visit <https://www.idemia.com/>

15. DOWN UNDER, BUT ON TOP OF MOBILE PAYMENTS

Source: Worldpay (1/9)

As part of our Mobile Payment Journey research, we surveyed 16,000 smartphone users around the world. Australia came out as one of the countries ahead of the curve...By 2019, there will be 17.93 million smartphone users in Australia. With an overall population of 24.13 million, it means there's a high percentage of people with the power to make mobile payments – and it provides an instant insight into how open Australians are to adopting technology in general. Most shoppers now regularly spend between \$20 - \$250 via mobile and online purchases have increased by 25% since 2016. Alternative Payment Methods (APMs) are on the rise. And the majority are open to making payments via apps as opposed to through a browser.

However, despite the country's openness to making mobile payments, there are still plenty of challenges to overcome. The fast-paced and developing market mean there are new laws and regulations to deal with, which can either prevent purchases via technical restrictions – or just put people off. The New Payments Platform (NPP), for example, is designed to deliver real-time, data-rich payments. But implementing it has presented high profile stumbling blocks. Security fears are also high amongst Australians despite their willingness to try new things. Indeed, the biggest reason for dropping out of purchasing something added to a mobile phone basket in the last 12 months is concerns over mobile website or app security (25%)².

It seems that shoppers need to feel reassured before making purchases, with around two in three wanting to see digital security logos prominently placed – and the expectations don't end there. As a nation that demands the best from its mobile payment journey, there's a lot for businesses to consider if they want their products to be purchased. Most Australian shoppers now regularly spend between \$20 - \$250 via mobile and online purchases have increased by 25% since 2016. But the encouraging news is, these high expectations mean there are plenty of opportunities to take advantage of a thriving market.

A considerably large proportion (16%) of shoppers would pay more if the mobile experience was better, which is great news for businesses looking to increase their mobile sales. This can be achieved by beginning to cover off some of the simpler expectations shoppers have – 90%, for example, like to receive a confirmation email after making a payment. So, do the basics and do them well to reap the rewards. In addition, a huge 62% said they'd buy more frequently from a retailer if they received discounts, and 41% said they'd shop more if they received loyalty points, which are relatively simple methods to implement to increase sales. The opportunities don't end there. Our insightful report uncovers lots of other ways to



optimise the payment journey – and highlights exactly what Australians want. It's part of a wider series we've created and there's a separate eBook for each country we surveyed.

Worldpay is a Member of ACT Canada; please visit www.worldpay.com

16. AMAZON TURNS TO VR TO BOOST FURNITURE SALES

Source: PYMNTS (1/7)

Amazon is hoping to increase purchases of furniture online, rolling out a new feature dubbed Amazon Showroom that takes advantage of virtual reality tools.

According to a report in Chain Store Age, the new feature lets online shoppers place 3D images of furniture into a virtual room to get a sense of how it would really look. The room's wall colors can be changed, as well as the carpet and flooring. In addition to seeing how furniture looks in rooms with other colors and flooring, shoppers can add products and entire room designs to the room and then purchase it. The new feature works with both Amazon's mobile app and online. Amazon isn't the only one embracing virtual reality to boost furniture and room furnishing sales. According to the report, Wayfair rolled out Wayfair Spaces recently, which is an interior design and room planning app. Shoppers can use items for designed rooms to see how they would look in their homes with the help of mixed reality, noted the report.

This past summer Walmart got into the virtual reality game, reportedly filing for two patents focused on virtual reality. In one filing Walmart is seeking a patent for a headset and gloves that would enable consumers to engage with a virtual store, while another one involved robots that would prepare items for shipping via virtual reality technology. While Amazon is relying on virtual reality to boost sales of furniture, it's doing brisk business in selling things via voice command. For the holiday season Amazon said voice orders increased three times compared to a year ago, with Alexa also being called hundreds of thousands of times to help consumers find cocktail recipes, listen to hundreds of millions of more hours of music compared to a year ago and turn on the holiday lights tens of millions of times during the holiday season.

17. ICBC SELECTS GEMALTO CONTACTLESS PAYMENT CARDS TO ACCELERATE CHINA'S DIGITAL PAYMENT TRANSFORMATION

Source: Gemalto (1/7)

Gone are the days where cash was king in China. According to China Tech Insights' report last year, 74 percent of Chinese consumers said they could live for more than a month with only 100 RMB (which is less than US\$15) in cash. To address this growing hunger for a swift and convenient payments, ICBC, the largest bank in China, has awarded Gemalto a three-year agreement to continue



supplying contactless cards. The contract addresses multiple card schemes-branded cards including Amex, China UnionPay, JCB, MasterCard and Visa.

Chinese consumers are increasingly turning to digital payment methods. According to the China Banking Association, China had over seven billion bank cards in circulation by the end of 2017. With the government's strong push for POS upgrade in the past years, China's contactless payments market, particularly in the credit card segment, is set to grow. Statistics show that there are over 31 million POS terminals installed in China, with the majority compatible with contactless transactions. Built on Gemalto's solutions, ICBC's dual-interface cards (both contactless and chip) enable consumers to make payments by inserting them into point-of-sale (POS) terminals or tapping them against contactless-enabled payment terminals. The latter presents a huge value to consumers as it is intuitive and can shorten the checkout time by 63 percent as compared to cash transactions. ICBC's cards follow the security of global EMV standards. They leverage Gemalto's smart chip not only to secure cardholders' credentials, but also encrypt its communication with the POS terminals and processing networks.

"As the digital security leader, Gemalto has been partnering with ICBC for almost 20 years. Our solutions, which are at the heart of modern life from payment to enterprise security, are helping to support ICBC's global business expansion strategy and accelerate China's cashless revolution," said Michael Au, senior vice president Banking and Payment APAC for Gemalto.

"Dual interface payment cards will allow consumers to pay faster, without compromising security. Since these cards can help improve operational efficiency and security, we also hope this effort will encourage local merchants to adopt EMV chip and contactless-enabled POS." As China continues its chip card migration, card schemes such as China UnionPay, MasterCard and Visa are quickly adding contactless capabilities to their card base, resulting in the country having the largest dual interface market, in terms of annual volume.

American Express, Gemalto, MasterCard and UnionPay International are members of ACT Canada; please visit <https://www.americanexpress.com/canada/>, <https://www.gemalto.com/>, <https://www.mastercard.ca/en-ca> and <http://www.unionpayintl.com/en/>

18. STREAMLINING THE B2B SIDE OF RETAIL WITH DATA

Source: PYMNTS (1/22)

There is a chain reaction set off when a consumer makes a seemingly simple purchase online. While the shopper will click "buy," then receive data about order confirmation, payment acceptance and shipping, the retailer itself is bombarded with information and a slew of decisions to make.



That single purchase provides several data points that retailers must assess to run their businesses most efficiently. How will this sale impact inventory? Was the item purchased a hot seller? Are the supply chains, logistics providers and warehouses functioning properly to get the order to the buyer on time? This is the B2B side of retail, with supply chain management a complex process, often involving nets of thousands of suppliers, workers, infrastructures and digital platforms. There is much room for error and mishaps, whether it be a hurricane that affects a manufacturer's ability to meet an order or a sudden trade dispute.

Technology Adoption Not Enough

These are the opportunities for cutting-edge technologies like artificial intelligence (AI), machine learning, Internet of Things (IoT), biometrics and more to make an impact on how retailers manage their back offices. Technology adoption among retailers and their supply chains is on the rise, but still has a long way to go. According to Panasonic's Group Marketing Manager Nancy Scala and National Sales Manager Jim Dempsey, even adoption of digital solutions isn't enough for companies to be able to act with agility when split decisions must be made.

"Think of a facility manager who is managing an influx of volume of people and equipment," Scala explained in an interview with PYMNTS. "Imagine, every day, the facility manager is making decisions for the facility. But what if you have thousands of facilities? How do you optimize across the network?" As Dempsey noted, companies that have thousands of suppliers and business partners are embracing digital solutions like software to get business done. However, for retail giants like Walmart, the adoption of multiple ERP and warehouse management systems means the data in each platform is stuck in a silo.

"Trying to fit all of that together is a daunting task," he said. "They're collecting all of this data, but don't know what they can do with it."

Finding The Right Data — In Real Time

Understanding which information will provide valuable, actionable insight — and which data is perhaps not as critical to analyze — is a major opportunity for technologies like AI, he continued. It's a classic case of "you don't know what you don't know," with organizations struggling to gain a holistic view of their operations to identify which areas they need to act on.

Dempsey offered the example of a fire at one of Macy's largest warehouses just before the holiday shopping season last year. Being able to bounce back quickly from such an event cannot be done when data is analyzed manually. Rather, he said, IoT-connected devices, logistics and inventory management systems, and other technologies offer professionals the insight they need, allowing them to access information like what products were damaged, where shipments can be redirected and how they may fulfill orders through different areas of the supply



chain. Not only is it imperative that executives have this information, but it's key that they have it in real time to make the fastest decisions possible. Another example would be a natural disaster or storm that forces an order from a manufacturer to be shipped by air, rather than by ocean. Manually assessing this event would not necessarily provide logistics and supply chain executives with the information they need to understand that simply choosing to wait out the storm can have negative consequences all the way down the supply chain, back to the end consumer, noted Dempsey.

Panasonic is linking corporates with technology solutions to ensure that digital systems are communicating with each other, and that data can flow outside of silos. The firm recently announced a partnership with JDA Software to launch tools like Panasonic's Visual Sort Assist for accelerated package sorting in warehouses, while integrating that sorting data into a main warehousing system. Other tools include Panasonic's out-of-stock detection capability and flowline analytics, again using automated technology and data analytics to manage inventory, and allocate equipment and workers in areas with the most need. For retail today, said Scala, technology can provide organizations with the ability to stay innovative, while squeezing as much value from the infrastructure in place. Now, businesses are beginning to turn to data scientists as they realize that the digital systems they've adopted present data that cannot easily be analyzed or used, providing even more opportunity to boost the return on investment (ROI) for a technological investment.

The adoption of supply chain technologies has put retailers at a crossroads in how they're going to get the most out of these tools. Artificial intelligence, said Dempsey, can turn pools of data from a conundrum to a decision-maker. "Where there's uncertainty, there's opportunity to bring clarity," said Dempsey. "Everyone is progressing in this IoT world, and everyone is at the first level of putting up sensors to capture data. Retailers want [technology], and look at what to do with the data, how to manage it. That's what's most important; that's what they're really struggling with."

19. EXPERTS SAY CHINA'S CYBERATTACKS TO INTENSIFY

Source: PYMNTS (12/22/18)

China will not stop its cyberespionage campaign against America any time soon, an expert told CNBC. Michael Fuchs, a senior fellow at the Center for American Progress, said the attacks will continue for the foreseeable future.

"I think it is very fair to say that China sees this cyberespionage for economic purposes as a necessary component of its national strategy to grow economically and to become a more powerful country, and that it is not going to stop — at least not with the current set of pressure that is being exerted by the U.S. and others," he said. The U.S. recently charged two Chinese men for allegedly stealing intellectual property from technology companies and military organizations. Prosecutors also accused them of stealing personal info from 100,000 people in



the Navy. The charged men were allegedly working with the Chinese government. Countries like Australia, New Zealand and Britain condemned Beijing for spying. China responded on Friday (Dec. 21) that it fiercely opposes the prosecutors' allegations and called them "slanderous."

FBI Director Christopher Wray said China has a singular goal: "China's goal, simply put, is to replace the U.S. as the world's largest global superpower." The U.S. and China are currently embroiled in a trade war that is already complicated by the arrest of Meng Wanzhou, the CFO of Huawei. Fuchs said that bringing charges against the Chinese was the Trump administration's way of trying "to apply more pressure on China across the board." China's president, Xi Jinping, gave a recent speech where he struck a defiant tone toward other countries. Xi "made it very clear that the (Communist) party being in control of the country is the most important thing in China going forward, that he is going to continue, and the party will continue on the same economic path that they have been on in recent years," Fuchs said.

20. HONDA IN-VEHICLE PAYMENTS NOW SUPPORT VISA, MASTERCARD, PAYPAL

Source: PYMNTS (1/8)

Paying on the go — literally, as in on the road and in the car — is gaining traction.

As noted yesterday in the PYMNTS Digital Drive Report, 99 million drivers — commuters, to be exact — are connecting to their dashboards and driving \$230 billion in commerce, buying everything from groceries to coffee. To that end, Honda has debuted its Honda Dream Drive prototype, billed as the "next generation infotainment, commerce, services and rewards" experience for drivers and passengers. In reference to commerce, Honda said in a release that its relationship with Visa, which focuses on in-vehicle payments, and which traces its genesis to 2016, continues. And now, said Honda, it is expanding its in-vehicle collaboration to include MasterCard and PayPal.

In a release Tuesday (Jan. 8), Olabisi Boyle, vice president of IoT at Visa, said that "by continuing our partnership with Honda, a leader in automotive innovation, we are furthering the development of in-car commerce solutions that focus on security, safety, and convenience for the driver. Combining Visa's payment expertise and Honda's expansive platform, we are one step closer to transforming the car in to a new epicenter for commerce." Honda said Tuesday that the integration of mobile services — including commerce and payments — through the prototype Honda Dream Drive was first shown as a concept at CES 2017 and now is being demoed this year at CES through Jan. 11. The in-vehicle payment system allows drivers to pay for goods and services such as fuel, parking and movie tickets, order ahead for pickup and also share drivers' location with family. Honda Dream Drive is both voice-activated and touch-enabled, and for commerce options the automotive



giant said it has partnered with a series of firms ranging from Grubhub to The Coffee Bean & Tea Leaf to Chevron to Atom Tickets, among others.

“From the comfort of their homes to the confines of their cars, people want to make purchases when they want and where they want,” Sherri Haymond, executive vice president, Digital Partnerships, North America, MasterCard, said in the release detailing the Honda prototype. “Our familiarity of shopping with mobile and voice-activated devices have created the expectation for almost every device to be a way to shop and pay. ”Honda also said Tuesday that it seeks to “create new value for vehicle ownership and use” and as part of that effort Honda Developer Studio is user-testing a points-based reward program that benefits those who use Honda products and services in-vehicle, ranging from payments to watching media.

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21. TACO BELL: KIOSKS, THE TICKET TO QSR ORDER CUSTOMIZATION

Source: PYMNTS (1/7)

To help modernize its restaurants and provide new ordering experiences to its diners, Taco Bell is bringing new technology into its brick-and-mortar restaurants across the country: The quick-service restaurant (QSR) chain is deploying self-service kiosks. The devices enable customers to peruse the Mexican-inspired chain’s menu and customize its selections to their tastes or dietary needs. Diners can, for instance, swap out beef for beans in the Crunchwrap Supreme to make the dish vegetarian. And, if customers want to bring on the heat, they can add jalapenos to a bean burrito. After diners make those kind of decisions, they can use the kiosks to pay with their credit cards or the restaurant’s gift cards. But customers don’t have to pay at the kiosks, as the company allows diners to place their orders on the devices and then pay with cash at the counter.

The kiosks are part of Taco Bell’s digital strategy, which is dubbed “All Access” and is geared toward letting diners interact with the company in whatever manner they’d like. The kiosks themselves “provide customers a modern way to explore and order on a large-format digital experience,” Taco Bell Senior Director of All Access Rafik Hanna said in an interview with PYMNTS. To power the kiosks, Taco Bell tapped touchscreen technology provider Elo for its Android architecture. Elo noted in the release that the kiosks, which will “soon” be in over 6,000 locations, can be controlled in one place. As a result, the restaurant chain can help increase security and uptime while lowering operating costs. The kiosks themselves are said to be all-in-one devices that were created for “high-traffic, public environments.”

The aim behind the initiative is to allow customers to place their orders through their preferred channel. Hanna said the company’s strategy is to “deliver a frictionless experience for our customers, and allow them to order Taco Bell in any



way that suits them best; this includes online, on the mobile app, Grubhub delivery, drive-thru and in-restaurant through a digital ordering experience.” And, as of December, the company had them in more than 1,000 locations in the U.S. Going forward, Hanna noted that diners will notice kiosks brought to Taco Bell restaurants in their area. When it comes to other technologies, he said the company is testing digital menu boards for drive-thrus in “a number of locations nationwide.” Overall, he said, the company will continue to improve its experience through its retail touchpoints as digital becomes a larger part of its restaurants.

The Kiosk Market

Taco Bell is not the only QSR chain that has brought in-store kiosks into its locations: McDonald’s said last June that it wanted to bring self-service stations to its U.S. stores at the rate of 1,000 per quarter over an eight-to-nine quarter period. McDonald’s CEO Steve Easterbrook said, according to prior reports, that in the past, diners could only use the drive-thru or walk up to the counter to place an order. That is no longer the case, as the company is now rolling out more alternatives. Easterbrook said, according to CNBC, “They can order through mobile, they can come curbside and we’ll run it out, as well as the existing traditional ways. You can pay in different ways and customize your food in different ways.” On a call with analysts in October, Easterbrook said the restaurant is seeing higher average tickets with the use and popularity of self-order kiosks “because people dwell longer.”

The PYMNTS Restaurant Readiness Index found that self-service kiosks can be one feature of a QSRs’ overall success. According to the index, 73.9 percent of QSR customers shared this view and 29.5 percent of QSR managers did as well. But a whopping 80.3 percent of QSR managers said that features that ensure the accuracy of customers’ orders will bring more success to their businesses. Beyond kiosks, the index also found that QSRs are tapping into online/app orders, in-store pickup and drive-thru pickup, among other options. But recent plans by QSRs like Taco Bell and McDonald’s to expand their kiosk deployments suggest that kiosks are gaining traction with QSRs in restaurants across the country.

22. LOUISENTHAL EQUIPS WINNING CURRENCIES WITH SECURITY FEATURES

Source: G+D Mobile Security (12/20/18)

At the High Security Printing Asia in Hanoi, the new 1000 Thai Baht banknote from the 2018 Thai banknote series 17 was awarded the Regional Banknote of the Year Award Asia and the new Hong Kong Series from 2018 the Best New Series Award. Both currencies are equipped with security features by Louisenenthal, one of the main criteria for the awards. The awards recognise “outstanding achievements in the design, technical sophistication and security of a banknote or banknote series”. The 1000 Thai Baht banknote was selected for its “outstanding and attractive Level 1 security features which encourage the public to authenticate the note at first



sight.” The Hong Kong Series received the award for its “striking design and the dynamic security features which correspond perfectly with each other.”

The main colour and size of the 1000 Baht note hasn’t changed, but it has been enhanced with security features to facilitate authentication both by systems in the cash cycle and by the general public. In the Hong Kong series, the reverse sides have been designed in portrait format, a feature that distinguishes them from the current series. Both currencies display Louisenthal’s Galaxy® security thread with the dynamic “Saturn” effect. Galaxy provides an optically variable surface based on micro-mirrors and ColourShift thin film layers. When tilted in any direction, rings and arcs travel along the thread surface and imitate a three-dimensional space by changing their relative positions. Additionally, a well-defined change of colour from green to gold on the Thai baht note, and from green to azure on the Hong Kong notes, can be observed while tilting. In transmitted light, demetalized text elements can be observed. The thread is equipped with machine-readable magnetic properties. Both currencies feature tactile marks for the visually impaired.

“We are very proud that both the Hong Kong Monetary Authority and the Bank of Thailand decided to use Galaxy as the note’s main security feature. The use of ColourShift together with micro-mirrors in our Galaxy thread exponentially increases banknote security”, stated Clemens Berger, Chairman of the Board of Louisenthal.

The Bank of Thailand issued its new “Series 17” set of banknotes in 2018. The 20, 50 and 100 baht banknotes were released on Chakri Memorial Day, April 6, 2018. The 500 and 1,000 baht denominations were issued on the new king’s birthday on July 28, 2018, featuring a portrait of His Majesty King Maha Vajiralongkorn Bodindradebayavarangkun in his Royal Thai Air Force uniform. The designs on the reverse of each denomination of the “Series 17” show the portraits of two Thai Kings in order of reign from past to present, along with images of their regalia. The higher denominations of the Hong Kong series, the HK\$500 and HK\$1000, are being brought into circulation at the end of 2018, beginning of 2019, while the lower denominations, the HK\$20, HK\$50 and HK\$100, will follow between 2019 and 2020. Both the front and the reverse side represent various iconic aspects from Hong Kong’s nature and culture; the reverse side in portrait format.

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23. DEEP DIVE: WHY SMART CITIES SHOULD GET SMART ABOUT DIGITAL ID

Source: PYMNTS (1/18)

By some accounts, approximately 70 percent of the world’s population will reside in smart cities by 2050. The following Deep Dive explores how digital IDs will be key to unlocking the full potential of smart cities, from collecting transportation fares



to improving emergency services response times. The rapid rise of smart cities promises to connect citizens with a wide range of municipal services. By some accounts, approximately 70 percent of the world's population will reside in smart cities by 2050. Citizens in this type of environment will find a host of connected devices designed to enhance their daily routines, such as smart parking meters that help drivers find and pay for parking. Smart trash receptacles are already being used to alert sanitation crews where trash collection services are needed, allowing them to adjust their routes and operate in a cost-effective manner. The growth of smart cities means citizens will be able to quickly connect with a host of services, including health, public transportation and public works. For citizens to engage with these services and trust them, seamless and secure digital identity tools will be essential. The following Deep Dive explores how digital IDs will be key to unlocking the full potential of smart cities.

On-Demand And Unattended Health Services

Healthcare is a highly contentious issue that often politicizes government and personal responsibility, and debates over the government's role in healthcare are likely to continue for years. In a smart city environment, however, healthcare access could change dramatically. Instead of in-person appointments with medical professionals, smart cities could offer citizens access to certain healthcare services from unattended kiosks that could manage tasks like analyzing saliva, drawing blood or filling prescriptions. Medical kiosks could also import the data gathered by connected devices for deeper analysis, providing consumers with more accurate insights into their individual health needs.

Though kiosk-based medical care might seem impossible, the current usage of health-related connected devices indicates that this technology could someday become a reality. Many consumers already use connected devices that track exercise activity, sleeping habits or blood pressure, indicating that they are already collecting health data without much additional effort. In a smart city, this data could provide more personalized details and address needs on demand without requiring people to take time out of their days to visit a medical office. Before public health kiosks can become a reality, the public must first learn to trust them. Digital identity solutions must be able to collect users' information without making the process overly complex. At the same time, they must also anonymize any data collected to keep users' personal information and health private.

The potential benefits of such kiosks are twofold. They could provide consumers with easier access to medical care and help them regain time that would otherwise be spent at a medical office. For city officials, the data collected from the kiosks could provide insight into public health needs. Though the technology may be a long way away, it will first require a secure and seamless digital identity solution before smart city citizens or officials are willing to trust it.



Smarter Emergency Services

Traditional emergency services are also likely to change dramatically in smart cities. Emergency medical services, including EMTs and ambulances, will be among the public services directly affected by greater connectivity. In the event of an emergency call, connected infrastructure could, for instance, change traffic lights to ensure ambulances have a clear path to a hospital. Digital IDs could also provide EMTs with patients' medical histories, allowing them to receive the most effective treatment. This could be especially important if they are unconscious or otherwise unable to communicate. Digital identity offerings could see use by smart city officials during emergencies. In the event of a hurricane, tsunami or wildfire, for example, the city would need its early warning system to automatically communicate information to emergency services and send out pre-approved responses to any potential dangers. This could rapidly improve the speed at which public safety officials respond to calls to close airports or major roadways.

A faster and more seamless identity verification method could help smart city officials develop a smarter way to respond to major events. These same authentication solutions could also prove to be essential tools for keeping people safe during times of disaster.

Getting Smart Trains To Run On Time

The effectiveness of a city's public transportation will be key in determining if it is, indeed, a smart city. Urban centers could use connected technology to track the speed and efficiency of buses, trains and subways, as well as public and private vehicles. This could help transportation officials better understand patterns of congestion and transportation usage. Public transport will move toward automated fare collection, most likely via portable devices. If administrators can determine how many people are using these public services, they'll be able to adjust their transportation plans accordingly, leading to reduced congestion. Recent research has found that even small public transportation improvements (from 5 percent to 10 percent off peak travel times), could save major cities approximately \$150 million per year. Using connected devices and digital identity solutions, a smart city's public transportation system could automatically determine who is using public transportation and how much each traveler should pay. This insight could help municipalities recover the approximately 15 percent of revenue that is spent on maintenance.

Paving Smart City Pathways With Digital IDs

As the millennial population grows, the implementation of smart city technology will accelerate. This tech-savvy generation has already proven to be highly disruptive in workplaces and other institutions and has demonstrated a willingness to embrace new technological innovations. In other words, millennials are likely to lead the adoption of digital identity tools and expect government services to deliver



services digitally, as well. There are already signs that certain government identification forms, such as driver's licenses, are going to go digital. Idaho, Colorado, Maryland and Washington, D.C., launched a test in 2016 to secure digital driver's licenses, and Wyoming joined the program the following year.

Several other nations are also experimenting with national ID systems. A decade ago, India launched Aadhaar, which aims to digitize local residents' identities to help them access government services and encourage the nation's demonetization effort. On top of that, China now requires citizens to apply for a digital ID at age 16, granting them access to various services, including driver's licenses and bank accounts. Additionally, the country is experimenting with the digitization of these tools in the Guangzhou region. For smart cities to become a reality, they will need smart digital identity tools to connect citizens with their services. Based on recent digital ID developments, the dawn of smart cities might be closer than it appears.

24. SMALL BUSINESSES AT THE CENTER OF BOTS VS ACCOUNTANTS

Source: PYMNTS (1/9)

Behind many shifting trends in small business (SMB) financial services — the rise of FinTech service providers, the emergence of artificial intelligence (AI), even regulatory efforts to promote bank switching — is a growing realization for the industry: Business owners don't just want number crunchers and money holders; they want advisory services and guidance to help grow their firms. One way this shift has materialized is in how small businesses seek and hire financial professionals to join their companies. In a 2017 report from job hunting site Indeed, researchers found that "small business accountant" was nowhere to be found in the top-10 job positions sought after by most small business employers. Instead, small businesses searched for "business development manager," "data analyst" and "business analyst," to name a few.

"It is interesting that we are seeing business analysts rise to the top of the list, as small businesses have traditionally relied on accountants in their growth phase," said Indeed's Senior Vice President of Human Resources Paul Wolfe in a statement at the time. "The healthy economy brings a need for companies to know where their business is thriving financially (or not), to help make decisions for the future."

Separate reports from The Wall Street Journal (WSJ), published last April, also demonstrated the changing nature of corporate finance: While the Big Four accounting firms' advisory and consulting revenue jumped by a combined 44 percent since 2012, revenue from straightforward auditing for the firms rose just 3 percent in that time. These reports reflect the changing role of the human financial professional. Rather than crunching numbers, human talent has the potential to provide the advisory services SMBs demand, while automated technologies take care of the bare-bones calculations. Enrico Palmerino, CEO of automated



bookkeeping company botkeeper, explained in a recent PYMNTS interview that behind this change is the industry's effort to tackle long-standing points of friction in the small business bookkeeping market — and to replace that friction with technology driven efficiencies.

“Bookkeeping is the low-value work performed by accounting firms,” he said. “It’s manual-intensive, error-prone, and hard to hire and train for.” Traditional bookkeeping also prevents financial professionals from using their time wisely, forced to aggregate and crunch financial data rather than analyze it. It’s perhaps unsurprising, then, that small business accounting remains a top target of automation technologies, particularly as innovations like AI and robotics process automation (RPA) seep deeper into the field. These technologies have also heightened anxieties about the potential for technology to replace human talent outright. McKinsey research, released in 2017, pegged the number of jobs worldwide that could be lost to automation by 2030 at 800 million. Yet, botkeeper’s Palmerino said automation in small business bookkeeping and accounting doesn’t have to mean that financial experts no longer have a place within small business back offices.

“Human accountants certainly still have a role with small business,” he said. “Human bookkeepers, on the other hand, will need to evolve into accountants and advisors.” Today, he added, technology is “better than humans” at accurately and securely managing and categorizing financial data.

“However, software cannot do critical thinking or take insights and translate them into value, or make a recommendation based on those insights,” continued Palmerino. “This is what accountants are really good at, and [they] will need to continue providing value.” It’s also important to note that, while technology like AI can guide businesses toward valuable financial insights, human intervention remains a key component in areas like tax compliance (in cases like interpreting tax law) and financial forecasting, he said. Those areas probably won’t be first in line to see robots replacing human talent. Beyond basic, repetitive number crunching, what may be next in line is the ability for AI to go a step further, providing alerts and insights to guide professionals through key decision-making. While technology can automatically generate a financial report, what small business owners need, said Palmerino, is to be told — with clarity — what information in that report they need to pay attention to, and how any changes in finances would impact their businesses down the line.

“Margins slipping 2 percent will result in one month less of runway,” he offered as an example. At present, the emergence of tools like AI signals the need for financial executives to adjust their strategic roles in their companies, and to provide value-added services in harmony with automated technologies in place. In November, botkeeper announced an \$18 million Series A funding round, as well as the launch of a partner program that aims to help financial professionals find their footing in this new landscape. While accountants and bookkeepers must be agile in today’s



ecosystem, Palmerino acknowledged that much remains unknown about exactly how tech like AI, machine learning (ML) or RPA will change the small business accounting space moving forward. In the more immediate future, he predicted that the most “boring, tedious and time-consuming” tasks will be automated by the end of the decade. Beyond that, small business accounting’s future remains largely unwritten. “AI and ML are still the Wild West, and are constantly changing and evolving,” he said, adding that, today, AI is even better than people at building other AI tools. “It will be really interesting to see how the industry shapes up, and whether AI automates itself out of business.”

25. ALMOST HALF OF COMPANIES STILL CAN'T DETECT IOT DEVICE BREACHES, REVEALS GEMALTO STUDY

Source: Gemalto (1/15)

Use of blockchain technology to help secure IoT data, services and devices doubles in a year. Gemalto can today reveal that only around half (48%) of businesses can detect if any of their IoT devices suffers a breach. This comes despite companies having an increased focus on IoT security: Spending on protection has grown (from 11% of IoT budget in 2017 to 13% now); nearly all (90%) believing it is a big consideration for customers; and almost three times as many now see IoT security as an ethical responsibility (14%), compared to a year ago (4%) with the number of connected devices set to top 20 billion by 2023, businesses must act quickly to ensure their IoT breach detection is as effective as possible.

Surveying 950 IT and business decision makers globally, Gemalto found that companies are calling on governments to intervene, with 79% asking for more robust guidelines on IoT security, and 59% seeking clarification on who is responsible for protecting IoT. Despite the fact that many governments have already enacted or announced the introduction of regulations specific to IoT security, most (95%) businesses believe there should be uniform regulations in place, a finding that is echoed by consumers 95% expect IoT devices to be governed by security regulations.

"Given the increase in the number of IoT-enabled devices, it's extremely worrying to see that businesses still can't detect if they have been breached," said Jason Hart, CTO, Data Protection at Gemalto. "With no consistent regulation guiding the industry, it's no surprise the threats – and, in turn, vulnerability of businesses – are increasing. This will only continue unless governments step in now to help industry avoid losing control."

Security remains a big challenge

With such a big task in hand, businesses are calling for governmental intervention because of the challenges they see in securing connected devices and IoT services. This is particularly mentioned for data privacy (38%) and the collection



of large amounts of data (34%). Protecting an increasing amount of data is proving an issue, with only three in five (59%) of those using IoT and spending on IoT security, admitting they encrypt all of their data.

Consumers are clearly not impressed with the efforts of the IoT industry, with 62% believing security needs to improve. When it comes to the biggest areas of concern 54% fear a lack of privacy because of connected devices, followed closely by unauthorised parties like hackers controlling devices (51%) and lack of control over personal data (50%).

Blockchain gains pace as an IoT security tool

While the industry awaits regulation, it is seeking ways to address the issues itself, with blockchain emerging as a potential technology; adoption of blockchain has doubled from 9% to 19% in the last 12 months. What's more, a quarter (23%) of respondents believe that blockchain technology would be an ideal solution to use for securing IoT devices, with 91% of organisations that don't currently use the technology are likely to consider it in the future. As blockchain technology finds its place in securing IoT devices, businesses continue to employ other methods to protect themselves against cybercriminals. The majority (71%) encrypt their data, while password protection (66%) and two factor authentication (38%) remain prominent.

Hart continues, "Businesses are clearly feeling the pressure of protecting the growing amount of data they collect and store. But while it's positive they are attempting to address that by investing in more security, such as blockchain, they need direct guidance to ensure they're not leaving themselves exposed. In order to get this, businesses need to be putting more pressure on the government to act, as it is them that will be hit if they suffer a breach."

Gemalto is a Member of ACT Canada; please visit www.gemalto.com

26. WHY GIG PAYMENTS NEED TO BE JUST LIKE CASH

Source: PYMNTS (1/24)

According to the data, 35.9 percent of workers participate in the gig economy, and about two-thirds source their gigs via digital marketplaces. Gig workers skew younger, though an increasing proportion are between the ages of 35 and 44. In addition, gig work still remains a form of supplemental income, as opposed to a main source, for the majority of workers — as 54.1 percent reported still having a full-time job. However, there were a few statistics that were a bit surprising. For example, nearly one-third of gig workers still report cash as their favored payment method. Furthermore, 22 percent are interested in joining the gig economy, but are unsure quite how to do so, and 25 percent expressed uncertainty about what the gig economy is at all.



“Awareness is still a big issue,” Hyperwallet SVP of Digital Markets Michael Ting told Karen Webster as the two discussed the results of the Index. “What we are seeing is that there are 50 million workers that could be added to the pool, and I think there is a lot of thought that has to go into how we can pick that awareness up.” Some of it, he noted, will be a matter of circumstances. Things like large-scale government shutdowns, for example, tend to leave people looking for ways to earn income in the short term, which makes them primed to learn all about the gig economy. The proliferation of vertical-specific marketplaces tapping into an increasing array of professional categories will further widen the net. Beyond circumstances, powering the gig economy for marketplaces going forward will be a story of payments — and making them flow instantly and intuitively to the right place for the worker that is receiving them.

Marrying Receiving Money To Using Money

While other payment methods have risen and fallen, cash has managed to hold on for one simple reason: It’s easy to receive and easy — and instant— to spend. That tight connection between receiving and utilizing funds, Ting told Webster, is a huge driver of payment choice for gig workers, though a concept that has been easily overlooked. He said that many digital marketplaces that matched gig worker supply with demand were focused on how buyers could easily pay, not so much on how receivers could easily receive payment and spend it. That, he said, is changing.

“Increasingly, from a payout perspective, the question is not only how to give these [workers work], but how to give them [the] ability to receive the money and use it,” Ting explained. Gig workers, he noted, don’t want to wait for their funds. They also, fundamentally, don’t want to spend additional time moving money from one account to another so they can use their funds. It’s why nearly 40 percent of gig workers like to be paid via PayPal — the funds can be moved into their accounts instantly, and can be used instantly to buy things, pay bills or transfer to someone else.

“Getting money instantly has value, and being able to turn around and use that money the [same] way you can use cash in real-world commerce is a powerful offering,” he said. It’s also why bank and ACH systems around the world are pushing for faster and real-time payments, and why the card networks are revving up their efforts to use debit cards and their rails as a proxy to push instant funds to consumer bank accounts. Moreover, as gig work continues to grow, and as workers start taking in more of their income from gigs, their preferences for faster payments within that sphere are only going to become more pointed. As consumers start bringing in more income by these methods, Ting said, the utility of the endpoint from which they take payments — and how easily and quickly they can work with that money — is only going to become more primary. That means it is becoming more important by the day for the marketplaces looking to attract gig



workers to optimize their payment processes. Increasing the speed of usable funds, he noted, is only the first step.

Curating Faster Payments

To say payments are a key competence point for marketplaces in the gig economy is a huge understatement. Payments “are a primary pillar of value,” Ting said, mostly because, without them, a marketplace isn’t going to last long. Sellers and service providers are there to make money. If they can’t do that easily on one marketplace, they will go to one where they can. What marketplaces have done well, so far, is create the instant gratification of finding the job or gig — and being able to obtain it in a “high-velocity way.”

“That instant gratification needs to be matched with the instant payment gratification immediately after the job is complete,” Ting said. “That is the battleground that is expanding as marketplaces become more competitive and [chase] the same pool of workers. Each of them have to figure out a way to add value to those individuals, and become the preferred destination to come to look for work.” That instant payment solution — or set of solutions — is the starting point. When marketplaces are in the early phases of optimizing the payment experience for their workers, it makes sense to go big with lots of methods and offerings so their workers will most likely see the method they want. However, more isn’t always better — and the lesson eCommerce can provide about offering too many choices around payments is the risk Webster called “Nascar-izing the checkout.” Just as having to wade through 1,000 buy buttons doesn’t help a shopper, 1,000 payment options aren’t what a gig worker needs or wants. The next phase of marketplaces must find a way to offer a more curated approach so that what they offer their workers is the most natural choice or two for their payout.

While we tend to think of merchandising as something that mostly happens in a retail context, it is increasingly something that marketplaces (looking to connect people to work) need to think about. Ten years ago, Ting noted, eCommerce websites were pretty static and uninteresting. Today, an awful lot of data and sweat equity go into personalizing those offerings — and merchandising them to capture digital customers. The same is true for marketplaces, he noted, which need to “merchandise themselves to individuals” so that the experience feels customizable to the worker, because of the options — around scheduling and payments — that are open to them.

“We should never forget, a lot of these gig workers, who evolve to the point where [gigs are a] sole source of income, say the number-one reason they are attracted to this type of work is flexibility and the fact [that] they are in control. The marketplaces that provide for that the best will attract those workers,” Ting said.

27. IN THE MIDDLE EAST, BANKS EMBRACE FINTECH

Source: PYMNTS (1/29)

Efforts in the Middle East by banks and other financial institutions to embrace FinTech are on the rise. As reported from Daily News Egypt, a consortium of banks in the region expects a number of FIs, including those in Egypt, to embrace FinTech. The Union of Arab Banks (UAB) has said in a study that such a movement would change the way Arab banks provide financial services. As pertains to Egypt banks, e-Cards (and, in tandem, electronic payments) have swelled to more than 30 million cards as of June 2018, as estimated by the country's central bank. The bank has also estimated that the tally includes 4.4 million credit cards, 15.8 million debit cards and 10.8 million prepaid cards. The site also reported that the number of point-of-sale systems came to more than 72,000 for the same period, up from roughly 66,600 at the end of the year.

The site, quoting Ayman Hussein, sub-governor of the bank for payment systems and information technology, said the central bank is eyeing the creation of digital banks. The bank has a goal of achieving 30 percent growth in issuing digital wallets, and for such wallets to be 10 percent of the wallets issued by each bank. Hussein also said that the number of electronic portfolios focused on the Egyptian market that have been issued by banks has reached 12 million, tied to more than five million clients. In one example of an omnichannel nature of bank offerings in Egypt, the National Bank of Egypt and Banque Misr this month issued a national prepaid payment card that also allows users to pay all government payments across electronic means.

Beyond the Middle East, a group of banks, investment firms and other stakeholders – spanning Accenture, SunTrust Bank and the trade group known as the American Bankers Association (which is focused on U.S. banks) – has joined a \$30 million investment round that brings funding to Finxact. That company, in turn, makes technology that works with banks' back-end systems to aid in transaction processing. In an interview with Reuters, Finxact CEO Frank Sanchez said the company will use the funding to grow operations and technology. The newswire said the investment comes as banks grapple with legacy systems that are "ill-equipped" to grapple with the transition to digital services such as peer-to-peer payments, or where consumers expect real-time account balance updates. Finxact's own offerings operate in the cloud.

"I have heard from bankers across the country who wish they had more nimble and agile core processing platforms that allowed them to keep pace with customer demands," ABA President and CEO Rob Nichols said in an email, as quoted by Reuters. "We understand that a bank's ability to innovate is highly dependent on its core processing platform."

Outside U.S. borders, in an effort to further cross-industry efforts in financial services, a group of financial firms in Singapore have formed the FinTech

Cooperation Committee. The membership thus far spans about 60 financial institutions, and includes insurance companies, banks and FinTechs. The Straits Times reported that the group's first meeting was earlier this month, laying the strategy for a work plan as well as code specifications for mobile payments. Singapore Business Review also said that funding for FinTechs in Singapore reached nearly a billion dollars in 2017. Technology infrastructure in the country is also strong, with outlets reporting mobile subscription penetration at more than 100 percent.

28. CANADIANS SAY PAYING DOWN DEBT IS THEIR TOP FINANCIAL PRIORITY IN 2019: CIBC POLL

Source: CIBC (12/20/18)

Canadians start the year worried about cost of living, low Canadian dollar and rising interest rates. A new CIBC poll finds paying down debt is the No. 1 financial priority for Canadians heading into 2019, the ninth consecutive year debt repayment has topped the annual survey. Further, almost a third (29 per cent) say they've taken on more debt in the past 12 months citing day-to-day expenses as the top reason for piling up debt.

"Debt weighs heavily on Canadians, so it's no surprise that Canadians continue to put debt concerns at the top of their list of priorities each year. Debt can be a useful tool for achieving long term goals such as home ownership or funding education, but if you're turning to debt to make ends meet, it may be time for cash-flow planning instead," says Jamie Golombek, Managing Director, CIBC Financial Planning and Advice who shares tips in a new video. "Reviewing your income and expenses with an expert can uncover ways to cut back, lower interest payments and reveal tax efficiencies to stretch your money further so you can reach your goals."

Key poll findings:

- Paying down debt (26 per cent) is Canadians' top financial priority in 2019, followed by keeping up with bills and getting by (14 per cent), growing wealth (12 per cent), saving for a vacation (7 per cent), and saving for retirement (6 per cent)
- Among the 29 per cent of Canadians who have taken on more debt in the past 12 months, top reasons cited are to cover day-to-day items (34 per cent), purchase a new vehicle (24 per cent) and pay for a home repair or renovation (20 per cent)
- Little changed from last year, Canadians say their top sources of debt are: credit card (45 per cent), mortgage (31 per cent), car loan (23 per cent), line of credit (22 per cent), personal loan (11 per cent)
- 28 per cent say they have no debt



- Top concerns for Canadians in 2019 are the rising cost of goods/inflation (64 per cent), low Canadian dollar (34 per cent), and rising interest rates (31 per cent)
- 63 per cent worry that the extended period of higher returns in the stock market are coming to an end
- While two-in-five (39 per cent) Canadians worry that they're forsaking their savings by focusing too much on their debt, the vast majority still (84 per cent) believe that it's better to pay down debt than build savings. This poll finding comes as Statistics Canada recently reported that the average Canadian household owes \$1.78 for every dollar of disposable income, even as the pace of borrowing continues to slow. Not surprisingly, with many (63 per cent) fearing that the stock market has already reached a peak, Canadians may be tempted to pull back on savings to buckle down on their debt – a decision motivated by emotions, not fact, finds an earlier CIBC report.

"There's rarely enough money to do everything, so it's critical to make the most of the money you earn by prioritizing both sides of your balance sheet – not debt or savings, but both," says Mr. Golombek. "It boils down to tradeoffs, and balancing your priorities both now and down the road. The idea of being debt-free may help you sleep better at night now, but it may cost you more in the long run when you consider the missed savings and tax sheltered growth." Downturns are often temporary, and nothing new, says Mr. Golombek. The real risk for investors is that they'll make knee-jerk reactions that they're likely to regret when the market rallies up again and they've missed out on those gains.

"Ups and downs can be distracting, but it's important to stay invested and not let short-term market noise knock you off course," says Mr. Golombek. "This is where having a trusted advisor can help." "Remember, your portfolio is built to achieve your long-term goals and takes into account any volatility over that time. The key is to have a financial plan in place with a balance of investments that can both weather any downturns and benefit from them as well," he adds.

Mr. Golombek shares tips to making your money go further in 2019:

- Write down your income and expenses for a three month period to determine if your cash flow is positive (money left over), neutral (no extra or shortage) or negative (short on income to cover expenses).
- Make a plan - If you're cash-flow positive, use the extra cash to pay off high-interest debt -- not your mortgage -- first. Next, you'll want to use the surplus to build long term savings in an RRSP or TFSA for yourself, and put away a little extra for the kids in an RESP. Lastly, if your long term savings are on track, consider increasing your mortgage payments. If you're cash-flow neutral or negative, look for ways to cut expenses or lower interest by consolidating debt at a lower rate.



- Automate your plan – Time your savings or debt-repayment plan with your payroll. Putting money directly to your goals right off the top can help you both achieve your goals and get by with less.
 - Review and prioritize your goals – You likely have many goals competing for your wallet. Meet with an advisor to build a financial plan that gets you on track to achieving what's important to you today and the many years ahead.
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29. FLEXITI SIGNS LONG-TERM AGREEMENT WITH HENRY'S TO OFFER ITS POINT-OF-SALE CONSUMER FINANCING SOLUTION

Source: Flexiti Financial (28/1)

Flexiti Financial announced today that Henry's, a well-known Canadian electronics retailer with 28 locations across the country, has signed a long-term agreement to implement its platform.

"At Henry's, we're always looking to enhance the customer retail experience using innovative technologies," said Gillian Stein, Chief Executive Officer of Henry's. "Flexiti's financing solution will allow us to offer customers easy access to payment options that suit their lifestyle and their budget."

Flexiti's industry-leading solution provides Henry's with a quick and easy way to drive increased sales while making purchases more affordable for customers through flexible payment plans with low interest options. The mobile, fully automated and 100% paperless process allows customers to apply for Flexiti's private label credit card both in-store and online and receive approval in minutes. This credit is usable at the more than 3,500 retail locations across Canada within the Flexiti network encouraging repeat business and customer loyalty.

"We're excited to bring Henry's into the Flexiti family of retailers," said Peter Kalen, Founder and Chief Executive Officer of Flexiti. "We're confident our award-winning platform will help the expert staff at Henry's locations deliver even better service to their customers."

Flexiti Financial is a Member of ACT Canada; please visit <https://flexiti.com/>

30. MPOS HELPS IN-FLIGHT PAYMENTS TAKE OFF

Source: PYMNTS (1/3)

Serving food and drinks to 200 passengers at 37,000 feet in the air used to mean balancing snack boxes in one hand and manual, paper-based sales reconciliations in the other. In the January mPOS Tracker, PYMNTS caught up with Eswee



Vorster, head of IT and innovation at airline FlySafair, about how mPOS is changing airlines' in-flight purchases game. Flights after the holidays are usually packed, and passengers may find themselves uncomfortably squished between other tired travelers. If they have to dig around in their pockets for bills or coins to make payments for drinks or snacks, they may find their elbows in someone else's space — or ribs. Making this purchasing process more convenient could go a long way toward brightening customers' journeys, making the transition from the holidays to the daily grind a little easier.

Some airlines have resolved this by turning to mobile point-of-sale (mPOS) solutions. JetBlue equipped staff with mPOS devices in 2015, and FlySafair designed its own solution, with a soft launch in late 2017. These developments have shown that airlines are betting on mPOS to remove payment pains. PYMNTS recently caught up with Eswee Vorster, head of IT and innovation for FlySafair's parent company Safair, to discuss the South African airline's mPOS solution for in-flight purchases. Originally, FlySafair's in-flight food sales were cash only, but customer demand spurred the airline to adopt new tech, allowing passengers to make payments via card.

"[mPOS] gives flexibility to our customers and gives us an edge on our competitors," Vorster said. Cash still remains popular among customers, but having the card payment option means they don't have to worry if they forget bills. Additionally, mPOS features don't just make purchasing easier for consumers, but make sales operations easier for flight attendants.

Passenger Personalization

Air travel can be a stressful, fraught experience for customers racing to make connecting flights, or for those who are just trying to get to their destinations on time. Anything that can remove friction — and make payments easier — can make a big difference.

For FlySafair, that means moving away from cash-only sales and giving customers more payment options. FlySafair employs the AviaPay mPOS system, which includes software the airline helped design. The main goal of the solution, which had its soft launch in December 2017 and its public launch in February 2018, was to give customers the option of paying by card. Now, the company is exploring ways to upgrade AviaPay and accept various additional payment methods. For example, FlySafair is considering enabling mobile wallets on the solution, which means there would be no need for passengers to pull out a wallet at all. It's also important for airlines to ensure that passengers who fly regularly enjoy the experience, rather than dread it. FlySafair believes mPOS solutions can put that pep into frequent flyers' steps. The airline hopes that mPOS solutions can create more personalized experiences, making flying more enjoyable for regular customers. To do so, FlySafair is also exploring mPOS capabilities that would give frequent customers the option to quickly reorder a favorite in-flight meal. To help



the system identify customers, they might be prompted to enter their seat numbers or passenger name record (PNR) numbers on the device.

“We don’t want [them] to enter PNR or reference numbers — it makes the experience a bit clunky,” Vorster said. “But [with identification based on seat numbers], there is the problem that people move seats. We don’t have a bulletproof solution at the moment.” Looking ahead, the company is considering services that would enable passengers to place orders at third-party food chains inside the airport and have the items delivered to them prior to takeoff, Vorster added.

Around The Airport

The strain of flying sets in long before passengers hit their seats, so they need many processes to be easy — not just buying food. Many travelers have stories about mad dashes to get through security before their flights. This is a problem that airlines are all too familiar with, which FlySafair took into consideration when developing its mPOS solution. The airline deploys the devices to agents who can walk down a line of waiting passengers and use AviaPay to check them in. This feature can be especially handy during high-volume days. Ultimately, FlySafair aims to take AviaPay’s functionalities further and wrap its various departure control processes into one mobile system that would enable not only express check-in, but other airport management services as well, such as paying baggage fees. Plans call for equipping agents with an iPhone, and two mobile printers that could clip onto their belts — one to print baggage tags and the other to print boarding passes.

Attending To The Attendants

Implementing an mPOS system isn’t just a benefit to customers. It can also make life easier for flight attendants who may struggle with paper-based reconciliation, and need solutions that can keep sales processes moving smoothly.

“In the beginning, there was a lot of getting used to the new system,” Vorster admitted, adding that once the crew adjusted to using the devices, they found the system helped facilitate reconciliation. “[Now, attendants] don’t have to sit and manually write in books and on papers to do their reconciliation. ... It’s making the whole process faster in terms of processing payments, and also enabling them to work in a paperless environment.” The mPOS solution allows for crews to abandon manual reconciliation processes, in which they had to write down sales after every flight. Instead, the AviaPay devices print sales summary reports. In addition, the detailed sales information helps FlySafair make more informed decisions about which items to restock for upcoming flights, Vorster said. It provides data — such as the popularity of different menu items and which crew members are the best sellers — that enables the airline to offer rewards to top-selling crew members, incentivizing employees to make sales. Before AviaPay could be rolled out to



attendants, it needed to be tailored to an airplane environment. For instance, the device has to work offline when a flight is underway, but it must also be able to reconnect to the internet when a flight lands to transmit information for payment processing, Vorster explained. Since FlySafair runs domestic flights of up to two hours in duration, it was important for the mPOS to support a swift purchasing process, which meant avoiding time-consuming features like a menu display.

“There’s not lot of time to browse and go through menus ... or struggle with difficult [screens],” he said. “We try to keep it simple.” As demand for digital payments continues to rise, airlines around the world may find that enabling consumers to pay with their preferred methods, as well as making everything as quick and easy as possible for passengers and flight attendants, is key to making business take off.

31. MASTERCARD SPENDINGPULSE: U.S. RETAIL SALES GREW 5.1 PERCENT THIS HOLIDAY SEASON

Source: MasterCard (12/26/18)

A robust shopping season from before Thanksgiving through Christmas has given retailers much to cheer about this year. According to MasterCard SpendingPulse™, which provides insights into overall retail spending trends across all payment types, including cash and check, holiday sales increased 5.1 percent to more than \$850 billion this year – the strongest growth in the last six years. Online shopping also saw large gains of 19.1 percent compared to 2017.

“From shopping aisles to online carts, consumer confidence translated into holiday cheer for retail,” said Steve Sadove, senior advisor for MasterCard and former CEO and Chairman of Saks Incorporated. “By combining the right inventory with the right mix of online versus in-store, many retailers were able to give consumers what they wanted via the right shopping channels.” The MasterCard SpendingPulse report details holiday shopping from November 1 through December 24. Key findings of the report indicate that despite weather challenges, this was a winning holiday season for retail overall; however, the story was different category by category:

- Total apparel had a strong season with a growth rate of 7.9 percent compared to 2017, recording the best growth rate since 2010. The category followed through on a strong momentum that started during the back-to-school season and accelerated through fall right up to Christmas.
- Home improvement spending continued to surge across the U.S. with spending during the holiday season up 9.0 percent. This trend started before the holiday season and helped the sector power through to a strong finish.
- Department stores finished the season with a 1.3 percent decline from 2017. This follows two years with growth below 2 percent, some of which can be attributed to store closings. However, the online sales growth for



department stores indicated a more positive story, with growth of 10.2 percent.

- Electronics and appliances were down 0.7 percent. The home furniture and furnishings category grew 2.3 percent.
- Poor weather did pose an issue during some primetime shopping periods. This included cold weather on Black Friday morning on the East Coast and wet weather conditions the weekend of December 15-16, on both the East and West coasts. Conditions were also less than ideal on Friday, December 21, in the East, with storms that impacted the final run of the season.

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32. HOW AUTONOMOUS CARS WILL UPEND THE GROCERY INDUSTRY

Source: PYMNTS (1/29)

From connected cars to smart ovens, the Intelligence of Things (IoT) ecosystem is projected to grow into every area of consumer life by the end of 2019. Overall spend on IoT devices is set to skyrocket this year. South Korea alone, for instance, is expected to spend \$25.7 billion on the technology before the year's end, and the country is far from the top spender.

Countries like the United States and China are leading the charge, with each expected to spend nearly \$200 billion on IoT development by the end of the year. In fact, the U.S. is leading, spending an expected \$192 billion in 2019, compared to China's \$182 billion. Consumer devices may be expanding, but companies aren't stopping there: They are experimenting with IoT for agriculture, the supply chain, healthcare and government. However, all that growth may be hampered by the fact that consumers are still wary of IoT when it comes to security. It's expected that there will be 22 billion IoT-connected devices at play by 2024 — that is, if they can be secured and trusted. In the January Intelligence of Things Tracker, PYMNTS looks at the way IoT is growing around the world, as well as how companies are responding to the need for improved device security.

Around The IoT World

Security of IoT data is at the top of mind coming into 2019, and technology providers are already moving to create new solutions. BlackBerry, for one, is now offering a suite of online tools to manage IoT security for clients. The company's solutions deal with both the hardware and software components of IoT security, leaving clients free to innovate by placing the responsibility of halting a breach on BlackBerry. Others are partnering for security, like AT&T, which is now relying on a security solution developed by digital security provider Gemalto to provide AT&T customers with greater security. The solution relies on the Gemalto "eSim," tying security to the hardware of the device. Meanwhile, countries like Japan are taking



a different approach. In preparation for the 2020 Olympics, the Japanese government is enacting a plan to better protect the IoT devices of its citizens from being hacked — by hacking them first.

IoT, Grocery And The Connected Car

While security remains a top concern, consumers are looking for faster ways to get their goods and services — and that’s where IoT devices like connected cars come in. Connected cars could have a profound impact on the way consumers have goods delivered, especially when it comes to sectors like grocery — one of the last areas where in-store shopping is holding fast over its eCommerce competition. An IoT-connected car with real-time tracking and updates could solve that issue, said Pradeep Elankumaran, CEO and co-founder of digital grocer Farmstead, in a recent interview with PYMNTS. The connected car could not only add a level of consumer comfort when it comes to traffic updates and delivery estimates, but provide a faster way for customers to receive their groceries, Elankumaran said in this month’s feature story. Head to the Tracker’s feature story to find out how Farmstead’s connected car pilot is impacting grocery in the Bay Area.

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33. GEMALTO ADVANCES GLOBAL IOT CONNECTIVITY WITH LPWA MODULE PLATFORM BASED ON LATEST QUALCOMM LTE IOT SOLUTION

Source: Gemalto (1/8)

- Cinterion platform engineered to provide reduced power consumption, uniquely efficient firmware update technology (FOTA), eSIM and remote provisioning, steadfast security and automated device-to-cloud onboarding
- Cinterion EXS82 IoT Amsterdam, January 8, 2019 – To meet booming global demand for Low Power Wide Area (LPWA) IoT connectivity, Gemalto announces a platform of innovative Cinterion IoT Modules based on the latest Qualcomm® 9205 LTE IoT modem from Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated. The new solution is designed to support global LTE-M and NB-IoT connectivity with optional 2G fallback from a single, ultra-small IoT module. Ready for the latest 3GPP specifications (Rel 14), the platform will be loaded with Gemalto security and value-added features specifically designed for compact, power-efficient IoT applications including smart meters, asset trackers, healthcare, wearable and smart city solutions.

Global LPWA connectivity in a tiny package

Available in the second half of 2019, the first Cinterion products based on Qualcomm Technologies' next-gen IoT LTE chipset will include the multimode Cinterion EXS62 IoT Module and Cinterion EXS82 IoT Module with 2G fallback.



The miniaturized solutions are designed to deliver global connectivity and extended coverage range with support of power class 5. This can enable up to 70% reduced power consumption helping to preserve the battery for applications in remote locations. It can also reduce cost and complexity for device makers and ensures worldwide reliability, which is crucial for the 6 billion new IoT devices expected to leverage LPWAN connectivity by 2026.

Unique incremental FOTA for efficiency, longevity

The platform will leverage Gemalto's innovative incremental FOTA technology with Lightweight M2M (LwM2M) to tackle the critical challenge of balancing bandwidth and power efficiency with software and security updates necessary over the long life of IoT devices. By streamlining overall firmware design and allowing precise revision of only the portion of code that needs updating, Gemalto can significantly reduce the overall update file size by 95% compared to competing LPWA modules. This will exceed benchmarks required by global mobile network operators and reduces transmission time, power draw and throughput. It's essential for managing forthcoming 5G compliance updates and extending device lifespan as well as for allowing dynamic feature updates and customization.

eSIM and remote provisioning secures and simplifies connectivity

Built on Gemalto's expertise in securely managing billions of digital credentials, the new Cinterion platform will include an integrated onboard eSIM along with secure remote provisioning capabilities. Together, the solutions can authenticate IoT devices, encrypt data and securely manage connections to cellular networks globally. Embedded into the IoT module, tamper-resistant embedded SIMs will reduce the size and cost of solutions while simplifying the supply chain.

Steadfast security streamlines the device-to-cloud path

Embedding digital identity certificates inside Cinterion IoT Modules during manufacturing strengthens IoT device security and ensures data privacy. Leveraging a digital handshake authentication process, certificates verify the identity of device and applications to streamline enrollment in all the main IoT cloud platforms. It will also simplify development and reduces TCO for OEMs by eliminating the need to deploy their own secure production facilities.

"We are excited to work with strong industry leaders like Gemalto to expand the horizon of possibility in IoT solutions," said Vieri Vanghi, vice president, product management, Qualcomm Europe, Inc. "Our collaboration with Gemalto on their new Cinterion LPWAN IoT Module Platform can allow OEMs to easily integrate and launch products using our cutting-edge Qualcomm 9205 LTE IoT modem, and in doing so, they will help enable massive IoT connectivity that can transform industries and make life better."



"Gemalto's Cinterion LPWAN IoT Module Platform will bring together our deep expertise in both IoT connectivity and digital security and provide a wealth of unique features that can allow device manufacturers to take the lead in IoT innovation," said Andreas Haegele, SVP IoT Products, Gemalto. "Our continued collaboration with Qualcomm Technologies allows us to deliver on our customer promise of innovating new technologies to advance connectivity possibilities, support their business success and enable trust in the IoT."

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