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Seeing through invisible payments: solutions for anytime, anywhere payments



All industries claim to be subject to technology-driven disruption. In many cases, that technology is simply the means by which the sector evolves. In these industries, disruption has become an of-the moment way to describe natural change or the latest new development.

That's not the case in financial services, and particularly not in payments and transactions. As providers of all kinds know well, the nature of the changes wrought by technology and the pace at which those changes subsequently become an essential feature of the landscape can be whiplash-fast. Online, mobile, digital, multi-channel, omni-channel, and invisible payments continue to fundamentally change not just the services that payment providers deliver, but who those service providers are.

The complex, diverse and fragmented payments landscape that has resulted creates challenges for all participants. Even the fintechs that led the disruptive wave are facing challenges of their own – often around trust, scale and compliance. Having dislodged traditional providers from various payment processes, they are now feeling the first cold fingers of disintermediation as potential replacements come onto the market.

While all this is going on, there is one specific problem faced by fintechs and traditional financial institutions alike. Payments are becoming an integral part of the service offered by the retail, travel, and hospitality sectors among others. Payments are becoming invisible. And, in their effort to create a seamless experience for customers in a fragmented market, so do payment providers of all backgrounds.

As we explore in this paper, the digital success that has created a demand for invisible payments is appreciated by customers but is turning payments back into a commodity service – just another way to enable the dopamine rush produced by other, exciting and more customer-facing services or businesses. We look at the implications of invisible payments, and how providers will fit into this invisible world, and how they can avoid being swept away by the next wave of technological change.



In many ways, invisible payments are simply the next logical step following the convergence of a number of key trends within the payments business and the availability of new payment-specific and more general technology developments.

Omni-channel behaviour

The first of these trends is the payment behaviour of consumers. They still shop in stores, but they make purchases online and in apps, avail themselves of Click & Collect services, use personal devices in bricks and mortar outlets, and make cross-border purchases without batting an eyelid.

Key to this is mobile technology. Since tablets and smartphones are the primary means for accessing the internet – and the only means in certain countries – the link between transaction and location has been cut. Mobile-enabled B2C commerce has increased, and consumers are initiating more and more transactions online.

But they do not always complete a transaction online. According to analysts at Forrester, the total value of purchases begun in a digital channel but completed off-line will reach €704 billion by 2020. That's an increase from the €457 billion seen in 2015. What's more, in combination with online sales, these omni-channel transactions are expected to be worth €947 billion by 2020, which represents 53 per cent of total European retail sales.

Certain financial institutions will be familiar with the omni-channel customer from their own retail banking experiences. Looking at customer journeys in 2016, McKinsey modelled the behaviour of 100,000 people who used different channels to secure a loan: the physical branch, phone, website, and web search¹. McKinsey found that 72 per cent of customers began their loan application process with a generic Google search of which only 3,000 went on to request an offer made online. Instead, 16,000 migrated to the call centre and 12,000 went to the branch.

Contactless, mobile apps and mobile payment devices are increasingly the new normal for consumers. Let us not forget that the much-touted Millennial generation is approaching its fortieth birthday – and large numbers of this mobile-happy cohort are now sophisticated, mature customers. The new adults of Generation Z have integrated modern technology even further into their lives: and tend to be far more interested in experience over consumption.

Mobile everywhere

The second is the rapid evolution of technology and the way it has fragmented payment services, particularly in well-established markets like the U.S.

Consider the progress of PayPal, which from early innovator and disruptor has now become a major pillar in the payments space with a more or less dominant position in the online payments. Once an exclusively online phenomenon, it has launched an online wallet for both online and in-store payments. It is joined by the likes of Amazon's own online wallet as well as other international fintech players; meanwhile the other big beasts of consumer technology – Apple, Google and Samsung – have all launched their own wallets.

Elsewhere, wallets like Alipay, WeChat Pay and Paytm are being increasingly accepted by merchants thanks to the low cost of acceptance and high levels of consumer penetration. What's more, mobile apps combined with payments – such as WeChat Pay, AliPay and the new WhatsApp Pay – are being quickly embraced by digitally connected consumers, particularly across Asian markets. This reflects the fact that more and more consumers engage with businesses through messenger apps like Facebook Messenger, WhatsApp, Talk and WeChat. Adding payment functionality to create these so-called 'Messenger Pays' is the next logical step.

China is leading the way here: its digital strategy has succeeded in creating the home of the mobile-social hybrid – where social media apps combine with payment wallets. Alipay, WeChat Pay and TenPay have more than 50 per cent share of the market. All of which reflects both of the convenience to consumers of these technologies and the fact that there is less established infrastructure to leapfrog.

There is also a growing deployment of QR-code payments in Asia. They allow consumers to make payments directly from their bank account and have attracted the attention of merchants, because the merchant service fee on QR-code payments is reported to be much lower than the average Merchant Service Charge (MSC) on credit cards. It also obviates the need to implement POS terminals. The Chinese WeChat Pay enables payments via a barcode-initiated Quick Pay, QR-code payments, and in-app payments. If the QR code

¹ More than digital: A truly omnichannel customer experience. McKinsey, July 2016

payment partnership between UnionPay, WeChat Pay and Alipay is anything to go by we could see this trend extend westward.

In the meantime, other bridging technologies for enabling in-store payments with wallets include NFC and Bluetooth Low Energy (BLE). We also see the traditional players in the banking industry starting to enable app-initiated IBAN-based payments direct from a bank account – to bring online banking to merchant outlets in-store. Meanwhile, the rollout of advanced security features such as tokenisation and 3D-Secure 2.0, new card payment form-factors like NFC stickers and wearables, and new digital wallets MasterPass, VISA Checkout, American Express Serve has started in the USA.

Other payment scenarios are emerging. For example, conversational commerce payments in which consumers interact with online shops through digital assistants like Amazon’s Alexa, Apple’s Siri, Google Assistant and Microsoft’s Cortana. As the auto industry continues to invest in Internet of Things (IoT) technologies, to create connected cars, then we can expect in-car payments to join the roster of consumer choices and enable shoppers to make Click & Collect or conversation commerce payments from the driver’s seat.

This is not wholly good news for consumers. As we discussed in our earlier paper *“Innovation, Fragmentation, and the Future of Electronic Payments”*, fragmentation can be overwhelming and in fact hinder further innovation as no one payment type gains sufficient foothold in a given market to attract investment or engagement from merchants.

Seamless experiences

This leads us to the third issue: that customer convenience and experience is now seen as a key driver of success. As stated in the 2019 Financial Disruptors report: “In the next decade

relentless focus on smooth customer experiences will triumph over traditional channel or distribution metrics as a determinant of success.”

Sebastian Siemiatkowski, CEO of Klarna, the report’s sponsor, went as far as to say that the industry needs to “eliminate this unnecessary friction and complexity in an increasingly bureaucratic, slow and impersonal world. That means offering services that help people seamlessly pay, finance, manage and keep track of their purchases. It is my belief that we as an industry will have failed in many ways if we cannot have a meaningful impact in empowering consumers to manage their daily financial life.”

This is where invisible payments come to the fore. With invisible payments, the physical form of the payment device is irrelevant. The consumer doesn’t carry or worry about using cash, a debit or credit card, a wearable device, or the appropriate mobile phone with the right wallet and security set-up. Instead, payments are triggered automatically, without the customer having to do anything.

Invisible payments capability is increasingly seen as an essential component of the seamless customer experience. For example, in the conversation payments and in-car payments mentioned above, the customer doesn’t fish around for their card or their phone. Their payment preferences are already stored in the cloud and are accessed automatically by the car or digital device.

As a result, technologies that enable invisible payment and which aim to reduce or replace physical check-outs will process more than \$78 billion in transactions by 2022 – according to Juniper Research. That’s an increase from \$9.8 billion in 2017. Juniper’s study also showed that the number of consumers using checkout apps will increase more than seven-fold to 30 million by 2022.



In many ways, invisible payments are a return to basics after years of more exotic payment developments. In essence, it is the simple transfer of value from A to B in a secure, safe and recordable format. The form factor is irrelevant.

POS terminals – themselves taking on multiple forms - interact with any personal devices with payment functionality to carry out a selected transaction without personal intervention. Done properly, invisible payments should take the artificial and unnecessary complexity – created by decades of ad hoc but disparate developments - out of payments.

To an extent, invisible payments are already with us. The most commonly cited example of invisible payments currently in operation is Uber. Payment details are stored inside the app which then takes payment for a journey automatically once the destination is reached: no more scrambling for a card, cash or phone while the meter ticks away in the background.

Nonetheless, there are plenty of other examples of solutions that allow the payment part of a purchase process to all but disappear from the customers' sight being trialled, tested and piloted.

From the consumer tech giants:

- The Amazon Go store concept, which is pioneering friction-free, grab-and-go retail. Having moved into bricks and mortar, Amazon still deploys its strengths in online retail and cloud services. Having chosen their preferred items, customers at the store then simply leave. Amazon charges their online accounts and sends a receipt via email or messenger app.
- Google's piloted Hands Free App, which uses BLE, Wi-Fi, location settings, and other sensors on a user's mobile device to spot whether that user is near a participating shop. As the name suggests, users can pay hands-free in that store – they don't have to open the app, although they do still need to tell the cashier that they intend to pay with Google. The cashier also has to confirm the customer's identity, using initials and a photo stored in the Hands Free profile.

The big banks getting in on the act:

- Barclays has started a trial of invisible payments through its Grab + Go concept, which is an attempt to streamline the shopping experience for low value goods. Customers use their phone as a mini checkout channel, and early test results show that the average transaction time was reduced from 5 minutes to 27 seconds. Following the success of Grab + Go, Barclays created its restaurant solution, Dine & Dash. Diners skip the traditional bill-paying process and simply walk from the restaurant after their meal, while a mobile app uses stored card details to pay.
- Spanish bank, BBVA has created a joint venture with Das-Nano called Veridas to create biometric facial recognition system that allows customers to order a coffee and pick it up without

waiting in line and to pay for it without their wallets. The same app also allows them to reserve a table, eat a meal and move on to the next venue without waiting for their bill. Instead they just waive to the waiter, who verifies the reservation so that the bill is automatically registered to their account. BBVA is also implementing a customer loyalty solution within the app.

Start-ups transforming the dining experience:

- Similar to Dine & Dash, solutions from Tab, Reserve and Dash all use Bluetooth Low Energy (BLE) technology to give diners the chance to pay quickly and easily by just saying their name out loud to their waiter or barman. The app automatically bills the cost to the user's card, which is stored securely in the cloud.
- PaidEasy is an app that is integrated with iBeacons and opens a tab as customers enter a restaurant or bar. The tab is synced with the POS, and as diners and drinkers order the next round, their waiter simply adds items to the tab – which is then paid invisibly in the app. To bring control and visibility back to customers, they can look at their tab at any point and choose to split, tip and pay the bill without waiting.

Payments in the automotive sector

- AirPlus is investigating invisible payments for parking at Frankfurt Airport. The pilot system recognises vehicles by their registration number as they drive in and out of the car park. Payment is automatically taken from the car-owner's or employer's centrally billed account and invoices logged to the same account.
- Jaguar Land Rover is equipping new models of the Jaguar F-Pace, XE and XF with built-in touchscreen technology and providing drivers with an app that together rely on geolocation and cloud-based payment solutions to enable seamless payments for fuel.
- Barclaycard and Citroen are also working together to bring contactless payment capability to car keys. Drivers can use the key to tap a POS terminal to make a payment, and then use a dedicated app to track spending or top up their balance.

The wristband gets smarter

- Disney is taking the wristband, familiar to visitors as entertainment events around the world, to the next level. Rather than carrying a collection of park entry tickets, FastPasses, hotel room keys and credit cards, Disney guests wear a single wristband – the MagicBand. They can then scan the wristband against various touch points throughout Disney's theme parks to complete transactions for rides, food, souvenirs, and more.

Some of the solutions given above are fully invisible. Some are only partly visible, extending the idea of contactless card or mobile payments to new form factors like keys or key fobs. But the underlying principle is the same.

For the customer, there is a subtle but important shift: payments are becoming much more about where you go and what you do, rather than the devices you carry. It's an experience rather than a transaction.

That subtle shift therefore has big consequences for all involved. Loyalty to particular payment brands is harder to secure when those brands are out of sight. Issuers and payment service providers may need different ways to attract and segment customers in line with specific products and services, as traditional methods will no longer be as effective. One of the ironies here is that the proliferation of customer choice and technological advances that turned transactions and payments from corporate cost-centre into brand differentiator are now returning them to commodity status. Necessary - but not a winning proposition in their own right.

As is also clear from the above examples, invisible payments are dependent on the development of Internet of Things (IoT) technology for connectivity between personal devices, vehicles, homes, laptops, and wearables, and payment service providers. In particular, invisible payments are dependent on exceptional amounts of customer data and advanced analytical capability.

This can lead to significantly improved insights into behavioural patterns that can, in part, offset, the devaluation of branding. But it too raises questions. While data and analytics have traditionally been the strengths of fintechs and digitally native organisations, the trend towards Open Banking has turned forward-thinking banks into stores of data as well as stores of wealth.

It is widely accepted that the future of payments lies in collaborative models and joint ventures between finance houses and fintechs. With invisible payments, banks and FIs must all but abandon cards, and redirect investment into the latest app features to allow hands-free payments – not necessarily their strongest suite. But the technology companies who can focus on providing the best possible payments experience, are not the ones moving money and risking capital in the case of a security breach.

Invisible is therefore yet another boost for the partnership model of payments provision. But as data is the source of value for both parties, establishing these partnerships and collaborations to mutual advantage is not necessarily straightforward.

Biometric identification is also a key part of many solutions: selfies, retina scans and other "who you are" forms of identification are all being adopted. Some claim that with the end of card payments, we could also see the end of card-not-present fraud. But biometrics are not fool-proof: as twin siblings have discovered when it comes to facial recognition.

Seamless payments also have a couple of drawbacks for the customer. Removing the physical act of payment also takes away a psychological barrier to spending. It's great for business, but perhaps less so for all but the most self-controlled customers. There's an opportunity here for personal finance management (PFM) solutions and it seems that payment providers would be wise to partner up with PFM providers if they wish to be seen as responsible businesses.



Perhaps the biggest change is for merchants and retailers themselves – particularly the growing number who operate on an international scale and face a variety of payment trends emerging at different rates.

Invisible payments are like the proverbial swan: graceful and elegant on the surface, while paddling furiously away below the surface. As Mitesh Soni, director of innovation and Fintech at Finastra put it in the Fintech Disruptors report, “The complexities are invisible to the customer – the way funds move from A to B for example happen in the background – we just expect them to work.”

Behind all the invisible payments solutions we have seen being trialled are stored digital payments credentials – and acceptance of these credentials has to be universal if invisible payments are not to be just another complexity foisted onto customers. Retailers too face a psychological shift: a waiter taking a photo of a customer to pay for an evening’s beers feels substantially different to a customer inputting a unique identifying number or signature, even though it may be more secure.

Psychological shifts aside, there’s also the question of the technology retailers need to enable invisible payments. We can say with some confidence that like the payments industry, the banking industry, and payment service processors, increasingly global merchant businesses will need to adapt to the new digital requirements and adopt the payment platform solutions that help overcome the fragmentation in the digital payments world.

The past decade has already seen enormous changes in the retailer payment infrastructure needed by merchants, including:

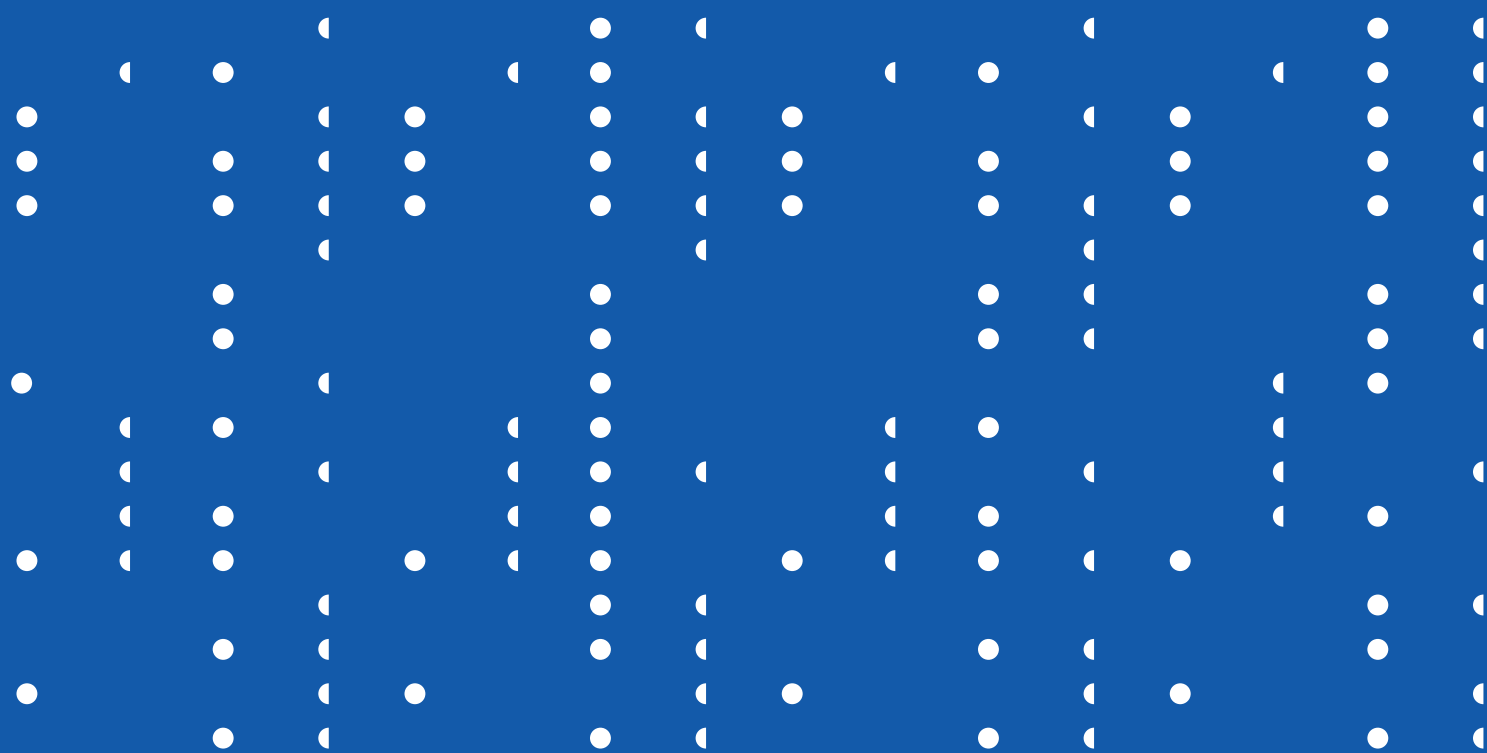
- Advanced payment security standards set by international card schemes from EMV to tokenisation.
- Bridging technologies that connect payment services from contactless cards to BLE with any payment checkout type.
- The replacement of ECR devices and POS terminals with tablet solutions and mPOS terminals with integrated PIN pad and card reader.
- Connected mobile devices allowing consumers to shop at outlets, in-store, in-app and in online shops.
- Omni-channel support of multiple payment services, including cards, card-less bank payments and online wallets.

The industry is starting to look at some forms of standardisation to help participants manage the ongoing fragmentation. For example, EMVCo has released a draft Secure Remote Commerce (SRC) Specification, to support consistent and secure online checkout. In a recent survey conducted by American Express, 89 per cent of merchants said they wanted to offer a ‘universal buy button’ checkout solution² as suggested by the SRC. This would establish a way for card payments to be made in a consistent way across websites, mobile apps and other digital platforms – but not yet bring invisible payments to physical premises. The fact is that the pace of change in payment types and technologies, is often outpacing the ability of established market participants to accept them. Many have already made substantial investment in infrastructure and are understandably wary of making further investments when the future of payments is fragmented and diverse.

As Mariana Gomez de la Villa, ING’s program director for distributed ledger technology pointed out: “When it comes to technology and products, we have to accept that we can never be 100% sure of what’s coming and we need to have a culture in place that supports that view of the world in a customer-centric manner to keep validation ongoing.”

The days of certainty are over. And payment platforms must reflect this simple fact. It’s not about the size of the solution’s footprint or the bells and whistles on offer (although feature-rich platforms are a huge advantage.) Instead it’s about identifying processes and workflows that go into making a payment, and then designing a solution that enables seamless payments from merchant to customer. Flexibility and adaptability are key. Invisible payments are not a whole new channel to be added. They are a completely different way of thinking about transactions. The underlying platform has to think differently too.

² The American Express Digital Purchasing Survey, August 2018.



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