



ISO 20022

## **A Game Changer for Debit Card Issuers.**

Are you ready?

**Many payment card issuers are likely to view ISO 20022 as yet another compliance issue. Are you unwittingly going to fall into this trap—and miss out on its benefits? Poised as a true game changer for debit and credit card issuers, this data-rich open and global standard could revolutionise how payments are processed and settled. So why should debit card issuers be especially concerned?**

Firstly, debit card issuers already have a lot to contend with and cannot afford to let this opportunity pass them by. Current accounts form the backbone of a bank's engagement with its customers, but it's a relationship that is increasingly being disintermediated by new players in the market. These new challengers are delivering various use cases, whether that's using open banking-oriented rails to syphon off previously high-interchange value transactions, mobile wallets capturing everyday spend or BNPL providers sitting in between the retailer and the issuer. The net result of all of this is that issuing banks now lack the visibility and insights from valuable transaction data which they previously took for granted.

Secondly, in order to reap the benefits of ISO 20022, debit card issuers have the biggest lift in terms of modernising their technology, as many still process in-house on legacy platforms. Simply put, issuers on such platforms will be challenged with handling ISO 20022. Issuers looking to upgrade their platforms will also need to consider the benefits of moving to the cloud.

In a rapidly changing landscape, staying competitive means card issuers must start planning now for adopting the technologies to support this universal standard—ISO 20022.

“The ISO 20022 migration is much more than just a new messaging format,” emphasises Joey Han, clearing solutions specialist, APAC, Institutional Cash Management at Deutsche Bank. “It is the start of an entirely new era for payments.”<sup>1</sup>

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As the migration to the new standard continues throughout the payments industry, key market dynamics—specifically, consumer expectations for hyper-relevancy and contextualised experiences that leave card issuers exposed to fintechs and more agile competitors—underscore the value of banks adopting this data-rich, open and global standard for all types of payments. Valerie Nowak, Executive Vice President, Product and Innovation, Europe at Mastercard shares “[as] consumers and businesses demand immediate and seamless payment experiences, the ISO 20022 standard can enable payments innovation by offering more flexibility, carrying more data, and creating opportunities for greater interoperability between systems. Mastercard leverages this standard today for some use cases as part of the suite of technologies we use

to drive richer experiences that are simple, safe and smart for business and consumers.”<sup>2</sup>

It is imperative that debit card issuers do not approach ISO 20022 as simply a compliance burden. To fully realise the promise of ISO 20022, issuers will need to pivot away from legacy technology stacks in favour of ISO 20022-native solutions. For those issuers manoeuvring to win in tomorrow's market, strategic planning must begin now to allow plenty of lead time to address the complexities. In order to best future-proof technology stacks to maximise the benefits of ISO 20022, forward-leaning companies are investing in cloud-based architectures.

This report will take a closer look at why it's so critical – especially for debit issuers – to embrace ISO 20022, along with five considerations for implementing the technology. So, will your financial institution treat this standard merely as a compliance project, or are you really ready for ISO 20022, so that you can reap the business benefits?



# Why is ISO 20022 important now?

Increasingly, we're operating around the world digitally – yet without a standard messaging system for banking and card payments. An IBM blog states the shift to this new standard offers a “golden opportunity to enhance how payments operate.” It goes on to state “In a world of instant payments and escalating payments fraud in the digital payments space, we must take this opportunity to reduce fraud, enhance compliance and build a better, more robust payment infrastructure. Ideally, a solution will offer ongoing interoperability across the different ISO-compliant payment networks.”<sup>3</sup> This approach offers a better way, supporting clear and consistent communication that only a messaging standard will promote.

The sheer scale of the changes that ISO 20022 requires from all the players within the payments ecosystem has made its implementation uneven to date and has led to a lot of scepticism as to when – and even if–these changes will take place on the card rails.



## Here's a closer look at three compelling factors as to why the time is right for card payments to move to ISO 20022 now.

### Factor 1: Open banking, BNPL and closed-loop payments present an increasing threat to players in the cards ecosystem

“In the UK, there are 6.5 million users of open banking-powered payments,” according to PYMNTS.com.<sup>4</sup> An analysis by PSE Consulting found that “users spent c.£38bn via open banking rails in 2022 across a base of almost 70 million transactions.”<sup>5</sup> The relatively high average transaction value is a reflection of the use cases that have been addressed first, typically the movement of funds from one account to another initiated from the mobile app of the recipient account (e.g., paying down a credit card within the issuer's app).

Open banking, in general, is experiencing incredible growth, albeit from a standing start, since its

technology automates connectivity between financial entities to create a better user experience—a fundamental requirement in our era of nearly instantaneous digital communications. It does this by securely sharing financial data between organisations with the account holder's consent.<sup>6</sup> While open banking helps fintechs deliver a positive customer experience, it often cuts out issuers by skirting the processor fees and reducing the amount of data available to issuers, which keeps them in the dark about customer behaviour. Open banking is coming to the point of sale (POS) and it will let merchants accept payments directly from a customer's bank account without incurring interchange-based fees.

The rise of BNPL helps cash-strapped consumers stretch their budgets by letting them make a single purchase through multiple instalment payments. In today's inflationary environment,

that's increasingly popular: a recent study of adult UK shoppers found that “more than two thirds (70%) of BNPL shoppers have turned to these services more frequently in the last six months.”<sup>7</sup> In most cases, BNPL providers still collect payments from payment cards but as the sophistication of open banking increases with the introduction of variable recurring payments, this may no longer be necessary. The outcome of this would be that the increasing use of BNPL threatens debit and credit card issuers alike by eroding their interchange and (in the case of credit cards) interest revenue.

Closed-loop payment systems also imperil the payment schemes. These payment systems provided by a “platform” allow shoppers to easily make purchases only within their ecosystem. A “platform” can be anything from a single retailer such as Amazon to the SME/consumer

community of a bank. While this payment method can be attached to a payment card, it also can let the purchaser directly use funds from their bank account. Companies using closed-loop payment systems gain an advantage because their processing costs are lower and their access to more and richer customer data gives them insights into customer behaviours. Companies running these closed loop payment systems can take advantage of this greater granularity and insight-yielding capability to make better informed offers with incentives such as customer loyalty rewards programs or employee discounts.

Whilst ISO 20022 cannot halt these macro-level trends, it could help even the playing field by providing open loop card processing with a much improved customer experience. As card schemes seek to keep transactions on their technology rails, we anticipate that they will introduce ISO 20022 on an optional basis very soon before eventually making the standard mandatory.

## Factor 2: Merchants are ready to adopt the standard at the POS

The acquiring side of card payments has already seen a strong adoption of ISO 20022 driven by the desire to reduce costs through the standardisation of terminals and terminal protocols (e.g. the NEXO standard). In addition, POS technology has rapidly evolved beyond simply taking payments and now encompasses a much broader value chain. This means that within a modern POS environment, the payment and the items purchased by the shopper are often encapsulated

into a single business transaction within the POS device itself. However, this information is not passed through to the issuer. Typically, information received by an issuer is based on the merchant classification code (MCC), such as shopping, travel, automotive or entertainment. When a consumer spends €100 to buy an item at a supermarket, the issuer lacks visibility into the item-level details of the purchase since it is simply classified as “supermarket shopping.” The ISO 20022 standard will offer enriched data supporting the transaction, potentially including identifying characteristics such as: it’s a woman’s shirt, blue, size small.

## Factor 3: Consumer and regulatory demand

The expectations of the modern consumer are very high and this applies to payments as much as to everything else. However, the card payment experience is still in many ways dated both in terms of the quality of the data available to the consumer and the handling of the customer funds, e.g., payment holds sitting on accounts for a prolonged period of time – hence, preventing access to that money. Consumers at times even struggle to understand the balance of their current account.

This second point is leading to increased scrutiny from regulators into why funds are being held when they shouldn’t be or why the completion of a card transaction has pushed an account into an overdrawn situation. Once viable alternatives to cards based on open banking are available, consumers are likely to adopt these new payment methods—and will be encouraged to do so by retailers and regulators alike.

Again, ISO 20022 is not a panacea, but the real-time nature of this protocol will mean that the majority of transactions will be completed in one message (known as single message), as opposed to two messages today (known as dual message). Where two messages are still required (such as with hotel bookings and car hire), the settlement message will be streamed to the issuer as soon as it is available. It should be noted that the majority of the use cases requiring dual messaging are paid using credit cards, so in practice, the majority of debit card transactions will have the authorisation and the settlement in a single message.



# Business Benefit: Richer transaction data promises to transform operations and drive new revenue

The enhanced or supplementary data that ISO 20022 can embed into the payment message provides real value in terms of offering greater clarity around customer behaviour.<sup>10</sup>

When more detailed transaction data is integrated across banking systems and shared with key stakeholders, it can transform the entire payment journey—and provide value beyond the payment transaction. The shopper can refer to their statement to identify exactly what they bought for €100 from a retailer—whether it's one item or matching shirts for the whole family. By accessing more data-rich details, the card issuer can understand their customers' purchase patterns and provide them with better support through more relevant marketing efforts while boosting their business' revenue, handling customer disputes more effectively or reducing risk levels with fraud solutions.

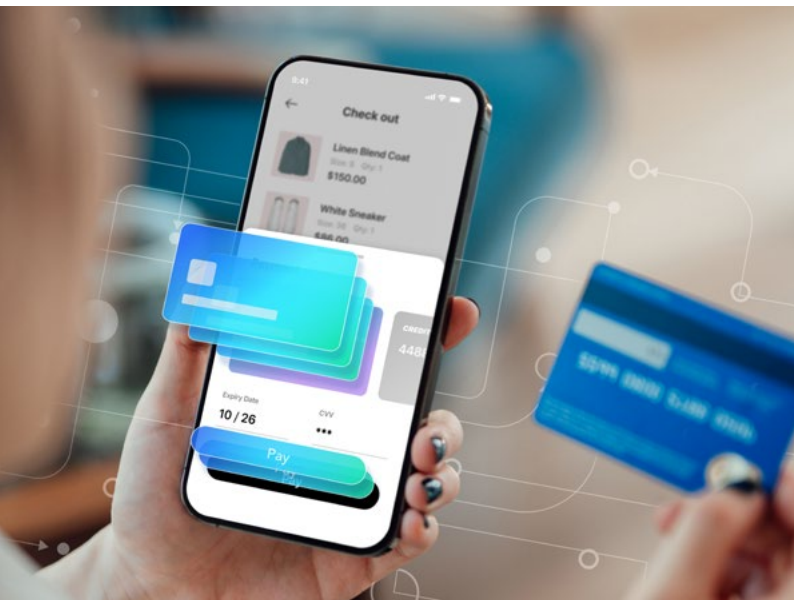
For instance, a change in a consumer's purchase patterns could signal a fraudulent transaction. Two contactless transactions may take place in the same supermarket on the same day but the first transaction could be for a weekly shop and the second transaction could be for gift

cards. Understanding this provides a much greater insight into whether or not the second transaction is likely to be fraudulent. Modern AI-based fraud detection is ideally suited to greater amounts of data and is able to adapt on the fly to emerging fraud trends.

Or in a different scenario, a change in how a person uses their funds could signal to an issuer that a customer's financial risk profile has increased based on suspected financial distress. This might be true even if a consumer changes the nature of their regular grocery purchases on their debit card. This scenario is important to detect as regulators increase scrutiny on financial institutions' (FIs) responsibilities. One of the central tenets of the UK's Financial Conduct Authority's Consumer Duty is premised on FIs predicting affordability; the onus is now on FIs to collect pertinent customer information, understand the customer context and avoid foreseeable harm.

Often, the acquirer-provided descriptor for a merchant may differ from the merchant's consumer facing brand name, and this can lead to a consumer failing to recognise a purchase and subsequently raising a dispute. Purchase details provided on digital statements that provide clear merchant names and even show the SKU-level details would reduce the number of disputes arising from cardholder transaction confusion. According to an Ethoca study, "a top reason cardholders dispute a transaction is due to not recognising it or being confused by the description provided by the seller—with about half of all cardholders saying that was the reason they disputed a charge over the past year."<sup>8</sup> There will also be a reduction in first-party fraud as consumers will be reluctant to dispute transactions where it is obvious through the enhanced data that it was made by them.

While the ISO 20022 standard provides enriched data and many other benefits to issuers, merchants and consumers alike, it's important to safeguard that information and adhere to privacy and security regulations such as General Data Protection Regulation. While captured transaction data could be valuable to enhance areas of an issuer's



operations, it is critical to balance this by complying with the privacy and security settings of the consumer related to their personally identifiable information. Of course, issuers can use this enhanced data to prevent fraud, address a customer's financial distress or service a cardholder account.

While a merchant or issuer can use SKU-level data to market products to a consumer if—and only if—a consumer has agreed to receive marketing communications, this data can be used to support the post-purchase experience. For example, when a consumer buys a new television to update the family home entertainment centre, the issuer could monetise this data by delivering useful and complementary services or offers—such as an instalment finance or insurance offer.

## Key takeaway

By taking full advantage of the data available from ISO 20022 message formats, issuers can gain a better, more comprehensive view of their customers' behaviour. The richness of ISO 20022 data could be the key to levelling the competitive playing field with a growing number of fintechs. FIs adopting it would gain a stronger position with increased visibility into the purchase data that supports hyper-contextualised and personalised products and customer journeys, new revenue streams and reduced risk through the greater insights powering their fraud models. These insights will catalyse dramatic improvements to a whole range of enterprise-wide processes beyond risk and fraud, including cross-selling opportunities, loyalty programs, statements and disputes. That, in turn, will positively impact the FI.

# What is ISO 20022 & how does it work?

The ISO 20022 website defines the standard as a universal financial industry message scheme. More specifically, it's

“a single standardised approach (methodology, process, repository) to be used by all financial standards initiatives.”<sup>9</sup>

This means it applies globally, to trades, payment cards, payments, securities and trading of foreign currencies.

ISO 20022 was introduced nearly two decades ago and first gained traction in the account-to-account (A2A) payments arena where it is now being adopted as the messaging standard for all new and existing payments networks such as SEPA, SWIFT and CHAPS. There is also a high-level standard for card payments available (known as ATICA) but the card schemes are each releasing their own version of ATICA.

ISO 20022 for cards will deliver real-time, API-based transaction messaging with the promise of greatly enhanced accompanying data by virtue of the flexibility the standard brings to the table.

Going forward, ISO 20022 will allow the payment and the underlying business transaction to be joined together, either in the form of embedded transaction data within the payment message or as an “overlay” transaction sitting on top of the payment flow. It's similar to how the Electronic Data Interchange (EDI) revolutionised the procurement process 40 years ago by automating ordering and invoicing, except ISO 20022 will support a broader range of use cases.

For example, at the moment, payments for a household's broadband provider in the UK are collected automatically by direct debit whether or not the consumer has agreed with or even seen the bill they have received. Many of us have experienced, without knowing upfront, a significant increase in a bill payment managed by auto debit. This scenario can result in someone's account going into overdraft and impacting other direct debits. In future, a request to pay could present the bill information to the consumer and request them to authorise its payment. Request to pay is an overlay on an ISO 20022 non-card payment flow and exemplifies the types of services that will come to the card world. Customers can be in charge of the payments they make and any issues will be highlighted upfront before they have broader consequences.

# Five technology considerations for implementing ISO 20022

The underpinnings of most debit card technology infrastructure are outdated, as most issuers have not replaced their technology since its introduction more than 30 years ago. It won't be a fast or easy process to implement all the changes and updates needed to modernise the core banking and debit technology infrastructure to ready it for ISO 20022. That's why preparing for ISO 20022 could be a once-in-a-career opportunity for IT leaders to simultaneously move beyond temporary fixes and updates and adopt an efficient, reliable platform that will future-proof their businesses. Those issuers that go beyond mere compliance could gain a competitive edge by allowing rich ISO 20022 data to flow through their systems and be accessed by all of their auxiliary processes.

Industry veterans will recognise the parallels with the adoption of EMV chip cards, which many viewed as a mere compliance move. It required many issuers to evaluate their existing technology and consider the options of whether to build, buy, or partner. Those that went beyond ticking a compliance box and actually aligned strategic initiatives to EMV stayed a year or two ahead of their rivals with their customer propositions. Many issuers also identified that the myriad challenges in keeping their systems and operations up-to-date and compliant made it imperative to pursue outsourcing. We're in a similar scenario now except that many issuers do not have an option to simply upgrade their existing solution.

## Here are five considerations for the main challenges to implementing ISO 20022.

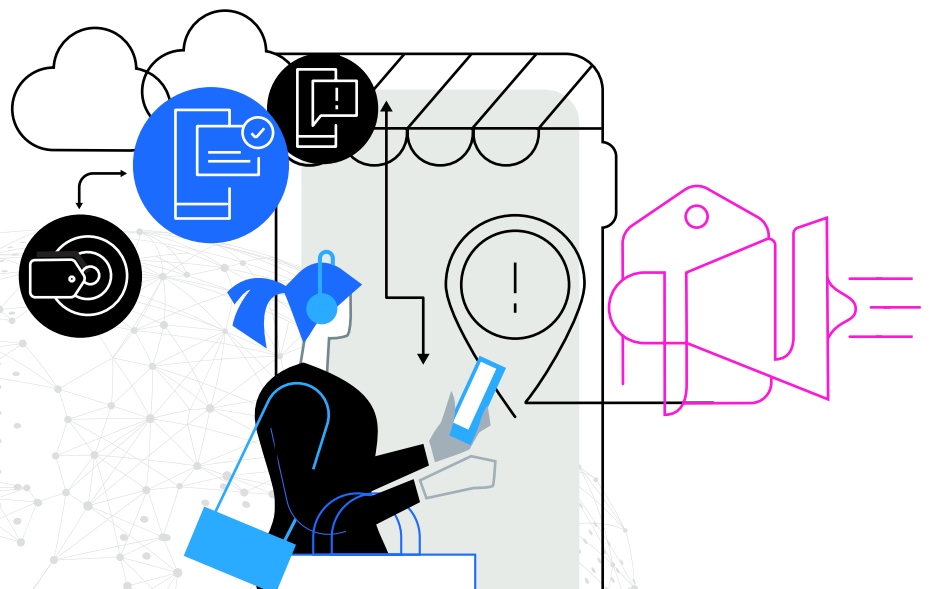
### Consideration 1: Change the data model to support richer data

It's hard to remember a time before unified technology platforms supported omnichannel commerce and cloud technology, but all this has taken place in the last 10 years. Legacy debit card processing solutions were built more than 30 years ago around now-outdated standards. Back then, computing power and storage were very expensive and focused on processing the minimum amount of data—meaning the internal representation of the data (the data model) was as lean as possible. As ISO 20022 messages contain much more data, its messages “can be 10-50 times

as large as typical credit/debit card or automated clearing house network messages.”<sup>10</sup>

To fully embrace ISO 20022, issuers should upgrade technology to support these new API-based messages and let the richer data provided flow through their systems. This will potentially impact all systems that support authorisation or transaction data, including all

servicing channels. At a minimum, the fundamental change to the data model must apply to the transaction approval process, which is foundational to any payment transaction. Key questions include: Do I approve this transaction or not? Now that it is known that my customer is doing *abc*, what next best action should be triggered?



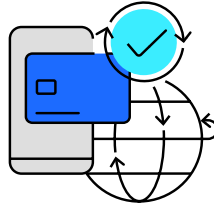


### Consideration 2: Ensure rich data flows to fraud management tools and core banking systems

The card transaction approval process involves real-time connectivity to other applications and systems. With debit card transactions, the fraud management and core banking systems are the two most important players in the approval process. Ideally, the additional data available through ISO 20022 would flow through both of these systems and would be processed by them.

The role of the core banking system in the transaction approval process is to check that the customer's account has sufficient available funds. However, there are many additional processes supported by the core banking system as part of this process that could benefit from the increased data—for instance, a behavioural monitoring system capable of extending overdraft coverage for certain types of transactions.

Fraud management solutions need access to the widest possible set of available data; the additional data in ISO 20022 makes it possible to greatly enhance the fraud decisioning process—and consequently may boost an issuer's bottom line—by detecting more fraudulent transactions while reducing false positives. When an issuer's fraud solution can't support the additional data, it should be replaced with one that can handle greater data processing capacity.



### Consideration 3: Implement event streaming to future-proof business

To support ISO 20022, it's critical that issuers implement event streaming of cardholder transactions. As the majority of debit transactions will be fulfilled in a single transaction as soon as the authorisation is complete, the authorisation system will be able to immediately make the clearing record available to the core banking system. This streaming of financial transactions is a fundamental change from today's batch world and must be done in a highly robust and controlled manner, with all the necessary reconciliation in place. In a world where financial data is moving 24x7, what constitutes a financial "end of day" cut-off?

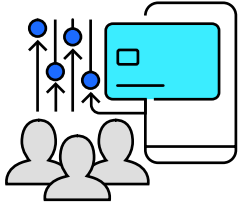
In addition, the authorisation system must also make the transaction data available so it can be relayed to various systems that don't necessarily require synchronous connection speed, but still need the data much quicker than legacy batch integration could deliver. For example, the sooner a loyalty system receives a transaction, the sooner the cardholder can be notified of a relevant promotional offer and the more likely they are to continue shopping using that card. Often, with batch integration, once the bank recognises the opportunity, they've missed the window to engage with the cardholder.

While the majority of banks have already adopted event streaming,

it's often been implemented as a "bolt on" and typically its operation is sub-optimal and expensive. For many issuers, streaming a transaction requires a data transfer among several platforms that causes delays, introduces risks and incurs high processing costs. Consumers often see this time lag when they're transferring money from one account to another and the sending bank notifies them about the transfer *after* they're notified by the bank receiving the funds. Modern cloud-based technology allows events to be streamed at high speed and for very little incremental cost, since the technology is fundamentally event-based.

As more and more applications and systems require real-time or near real-time data such as risk, marketing, rewards, anti-money laundering (AML)—it is important to take a loosely coupled messaging approach, known as "publish and subscribe," that enables many applications to receive a particular type of event. Architecture also must be adaptable for systems which now must synchronously process data where previously an asynchronous connection was sufficient. For example, AML regulations are putting more pressure on issuers to screen card-based money transfers in real-time as part of the transaction approval process.



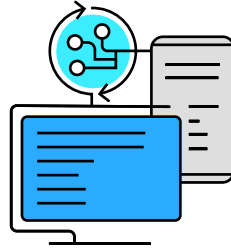


#### Consideration 4: Drive improved digital processes

Digital processes must be improved to leverage the value of ISO 20022. In fact, it is essential that the new level of enriched transaction data available through this enhanced messaging supports a bank's omnichannel servicing approach. Transaction data should be available in an easy-to-use format anyhow and anywhere the customer wants to interact with an issuer—whether talking to an agent or using a mobile app. Today, many of these servicing channels access data from the core banking system. From an IT perspective, the legacy nature of many of these solutions make implementation to fully support ISO 20022 a highly complex undertaking.

Financial institutions will undoubtedly look to achieve digital process improvements by adopting alternate solutions to realise the incredible value

offered by ISO 20022. For example, enhanced data can be stored in an auxiliary database and pulled into the digital statement process as required so that customers can recognise their transactions or submit their business expense claims. This auxiliary database might reside in the debit card solution in the same way as data is stored today to support the chargeback process.



#### Consideration 5: Convergence of card and non-card payments

Today, the approval process for card and non-card payments is similar in some ways. For instance, both processes require checks for available funds and for fraud. As non-card payment types are adopted at the POS and standards converge onto ISO 20022, those similarities

undoubtedly will increase. Consumers won't understand the nuances of the technologies that process their transactions, but they will expect a consistent experience whether they make a card or non-card purchase. For example, if gambling spend is blocked then they would expect it blocked on all payment types irrespective of the rails over which it runs.

As standards converge, issuers should determine if a single approval platform can be adopted for all types of payments, and consider the technical implications of this consolidation. Issuers must evaluate if a consolidation creates an unacceptable concentration risk because the bank might have a single point of failure.

Banks probably will reach different conclusions based on their size, organisational structure and appetite for risk. Should a bank adopt a single converged solution for transaction approval, above all, it should be built to be highly available and resilient. Also, it should have a configurable architecture for ease and speed of change due to the number of message types it will need to support.

## Conclusion

Those debit card issuers positioned to reap the biggest benefits of ISO 20022 won't simply treat it as a compliance project. However, the work required to fully embrace and adopt ISO 20022 is highly complex and, for most issuers, would mean moving away from legacy technology stacks and replacing some of their current systems with ISO 20022-native solutions. Given the long lead times, issuers should prepare themselves *now* for the arrival of ISO 20022—before it becomes a critical play.

When you combine this looming imperative with the overarching desire within most organisations to migrate their solutions to the cloud, this generates a true inflexion point where all options need to be on the table—build, buy or rent.

Major card processors have seen this inflexion point coming for many years and have already invested tens of millions of dollars into retooling for today and the future. FIs must decide whether they want to take on this burden themselves or pass it on to a partner who can share it across their many client organisations.

## Sources:

- <sup>1</sup> Han, Joey. December 2022. *ISO 20022: to March and beyond*. Deutsche Bank.
- <sup>2</sup> Nowak, Valerie. Executive Vice President, Product and Innovation, Europe. June 2023. Mastercard.
- <sup>3</sup> IBM. 2022. *Why ISO modernization is so important for financial institutions*.
- <sup>4</sup> PYMNTS.com. 2023. *What's Next for UK's 6.5M Open Banking Users?*
- <sup>5</sup> Jones, Chris. February 2023. *5 years in the making: UK Open Banking finally gains momentum*. PSE Consulting.
- <sup>6</sup> Global Payments. 2021 Commerce and Payment Trends Report.
- <sup>7</sup> Pratt, Kevin. November 2022. *Buy Now Pay Later Usage Soars as Cost-Of-Living Crisis Bites*. Forbes.
- <sup>8</sup> Ethoca. 2021. *Why Transaction Transparency is the Future of Digital Banking*.
- <sup>9</sup> ISO 20022. *About ISO 20022*.
- <sup>10</sup> EMB. 2017. *What Does ISO 20022 Mean For the Payments Industry?*

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