ISO 20022: UNLOCKING BUSINESS VALUE IN PAYMENTS

How the financial industry is leveraging the ISO 20022 standard to drive value

A report from Kapronasia in collaboration with FIS
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Methodology

The Unlocking Business Value in Payments white-paper from Kapronasia produced in collaboration with FIS is based on both primary and secondary research. Secondary research sources include both internal and external public and private databases. Primary research includes interviews with bankers, financial institutions, technology providers and industry experts involved in the payments industry.
Introduction

As the financial industry has developed, it has increasingly relied on technology to facilitate the flow of capital. Although technology increases efficiency and lowers transaction time and cost, a critical underlying need is an ability for systems to communicate effectively with each other both internally within an organization and externally with other organizations. With vast amounts of data flowing throughout the financial system every second, even the smallest miscommunication can be costly.

Over time, the financial industry has established different sets of standards to handle, and process data flows. Capital markets use the Financial Information Exchange (FIX) protocol to communicate information related to securities transactions. Payment providers and financial institutions are well versed in the use of MT messages which convey payment information throughout the SWIFT network.

Although this standardization has been beneficial for the industry, it has also created a cacophony of standards for different systems that has made it even more challenging to ensure straight-through, error-free processing. Orchestrating payment types and interfaces in a bank can be an exercise in frustration.

At first glance, one might assume that the ISO 20022 standard is not much different than many other standards in the financial industry today as it contains information about a transaction, or set of transactions, in one of a couple of formats. But that is where the similarities end.

ISO 20022 is an ambitious and flexible standard ‘methodology’ to supplement, and even supplant, many different types of existing financial messages across the industry. The extensibility of the standard also means that new business process types and datasets can be added quickly and easily.

These characteristics enable an entirely new set of potential functionalities and features that financial institutions across the industry have only begun to explore. The implications and impact of ISO 20022 on the global financial industry are large and offer new opportunities for companies to streamline and optimize existing business models, and create new ones, thus unlocking additional business value in payments beyond just better, cheaper, and faster.

It is in this context that we are pleased to present the Unlocking Business Value in Payments report by Kapronasia, in conjunction with FIS. We start the report with a look at standards in the financial industry including ISO 20022 and what is driving its development. The report then explores the key benefits that banks are deriving from the new standard and what to expect in the future.

We hope you find this report as interesting to read as it was for us to research.

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kapron ASIA

KAPRONASIA & FIS: ISO 20022 - UNLOCKING BUSINESS VALUE IN PAYMENTS
Financial messaging standards

The ability to communicate is one of the key fundamental precepts of our society. Whether it is bargaining for an apple at a market or negotiating a multinational treaty, the capability to clearly convey information is critical.

To ensure effective communication, societies have developed thousands of languages and dialects that individuals and organizations use to share information. The financial industry is no different and has established its own sets of languages and codes, largely supported by technology. Each day, billions of financial messages are passed between banks, technology companies, shared service, market infrastructure providers, and other market participants.

One of the critical underlying challenges of this growth is the need for the senders and receivers of electronic messages to have a common understanding of how to interpret the data. A human can look at a payment message and likely understand the meaning (or ‘semantics’ in ISO terminology). A computer must have a schema (or ‘syntax’) through which it can interpret the semantics it is seeing; hence, the need for standards.

SWIFT's standardized MT messages are used by over 10,000 financial institutions around the world for messaging in correspondent banking, foreign exchange, and documentary credits. The FIX protocol is used by nearly all active firms in the capital markets industry to pass trade and execution instructions. Some firms even have their own internal message formatting standards. DTCC, a provider of market infrastructure services, uses proprietary standards for the millions of messages that it processes every day to settle and clear securities transactions.

Although the industry has benefited significantly from messaging standards, financial processes and value chains have become more global and complex; this has led to a comparably broad and complex set of messaging standards.

Dealing with multiple standards and types of messages can be challenging and often results in increased expense and decreased straight through processing. Recognizing this challenge, the financial industry came together to develop a new set of standards to cover multiple different segments of the financial sector. The discussions resulted in the creation of the ISO 20022 standards.
ISO 20022 - A brief primer

The ISO 20022 standard itself and surrounding documentation is described in hundreds of pages on the ISO.org website. Here is a brief overview of what it entails:

At its core, ISO 20022 is a standard for creating financial messages for use between financial institutions and other market participants. It includes both the methodology for creating consistent messaging standards as well as a maintained and updated metadata repository (read: dictionary) of message descriptions and business processes. The standard currently covers payment transactions, securities trading, settlement information, credit, and debit card transactions.

ISO 20022 is organized so that common business processes are identified independently of messaging standards and referenced in message definitions to ensure consistency and reduce ambiguity in financial communications.

The standard includes a robust governance process that puts control of the evolution of the standard with the users. This ensures that messaging standards created by different users across different segments are compatible in terms of both syntax and semantics. It also allows certain sets of ISO 20022 users to develop their own specific rulebooks and guidelines, while maintaining overall compatibility with other user communities and their standards.
Standardizing the Industry

Different segments of the market have moved at different speeds, but the overall shift to ISO 20022 has been consistent. As of January 2019, there were over 100 completed or in progress ISO 20022 migration initiatives across the global financial industry, and likely many more that were not explicitly publicized. Specifically, in the payments space, much of the focus has been on ACH, real-time payments, and high-value payment systems.

ACH

The Single Euro Payments Area (SEPA) was launched in 2008 and was an ISO 20022 front-runner, incorporating the standard into the initiative from the start. The STEP2 Pan-European Automated Clearing House (PE-ACH) had been initially setup in 2003. It was then made SEPA compliant in 2008 and moved onto the ISO 20022 standard. The STEP2 infrastructure initially supported automatic clearing for credit transfers and later added support for direct debits, and card payments. All Euro countries had to move their domestic ACH infrastructure to ISO 20022 based SEPA schemes. Non-Euro countries like Switzerland also moved their domestic ACH infrastructure to ISO 20022.

The UK Bankers’ Automated Clearing Service (BACS) had previously been using a “Standard 18” file format for its ACH payments, but as part of the New Payments Architecture (NPA), BACS will be shifting to ISO 20022 as well. Similarly, Canada is pursuing a national payments modernization plan that incorporates ISO 20022 for the Canadian ACH platform.

ISO 20022 provides a standardized ACH message structure for processing credit and debit messages and supports automatic translation from different message formats, including CCD, CTX, PPD, IAT and SAME Day ACH to one consistent and standard messaging format.

Domestic real-time payments

The implementation of the Faster Payments Service (FPS) in the U.K. in 2008 unofficially kicked off a wave of global payment infrastructure modernization. More than 38 countries have made the shift to modern, real-time, domestic payment platforms in the past decade.

The FPS and many of its contemporaries have gone through many updates in their lifespan. Under the New Payments Architecture initiative, a new ISO 20022 central infrastructure will be developed for FPS, BACS, and potentially Image Clearing System transactions.

In the Nordics, P27, a brand-new multi-currency cross-border payment infrastructure, is being developed across Sweden, Denmark, Finland, and Norway. The new jointly owned platform will serve 27 million customers and will transform direct debits, e-invoicing and real-time payments in the region, while simultaneously reducing payment costs significantly.
Japan has also made a move to ISO 20022 for its national payment infrastructure. Zengin was established in 1977 to handle low-value payment transactions and introduced ISO 20022 in 2011 to provide better real-time payment services. This was driven by the Bank of Japan’s stated focus on improving global interoperability, and the benefits ISO 20022 provides in terms of data capabilities.

In addition to modernizing existing systems, nearly every new domestic payment system globally is launching with ISO 20022 support by default. Australia’s New Payments Platform (NPP), as an example, was designed around ISO 20022, as was Singapore’s G3. Thailand’s PromptPay, which went live in 2017 on the 8583 standard will move to ISO 20022 in 2019, as will the UK Faster Payments platform in the near future. As centralized payment infrastructure development typically comes at a significant cost, governments are keen to ensure that the platforms are future-proofed.

Regulators and governments often look at real-time payments in the context of the broader market, for the potential economic benefits they may bring, and to balance out the market power of third-parties such as Visa and Mastercard. Kapronasia has also found in previous studies that real-time payments can significantly help financial inclusion by providing instant settlement to under-banked individuals and companies that often need it the most.

Nevertheless, many banks globally have struggled to define a compelling business model around real-time payments. Typically, real-time payment pricing commands a slight premium over non-real-time payments, but even in cases where the difference is minimal, except for a few banking customers that absolutely need instant payments, up-selling to real-time has been challenging. However, with the adoption of ISO 20022, the amount of data and insight that can be provided through real-time increases dramatically. This offers new business opportunities and value-add services.

<table>
<thead>
<tr>
<th>Country / Region</th>
<th>Payment System Name</th>
<th>Year Launched</th>
</tr>
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<tbody>
<tr>
<td>Europe</td>
<td>SEPA Instant Credit Transfer</td>
<td>2017</td>
</tr>
<tr>
<td>Singapore</td>
<td>Fast and Secure Transfers System (G3 FAST)</td>
<td>2017</td>
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<tr>
<td>US</td>
<td>Real Time Payment</td>
<td>2017</td>
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<tr>
<td>Hong Kong</td>
<td>Faster Payment System (HKFP)</td>
<td>2018</td>
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<tr>
<td>Australia</td>
<td>New Payment Platform (NPP)</td>
<td>2018</td>
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<tr>
<td>Malaysia</td>
<td>Real-time Retail Payment (PayNet)</td>
<td>2018</td>
</tr>
<tr>
<td>Thailand</td>
<td>PromptPay</td>
<td>2019</td>
</tr>
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High-value payments & real-time gross settlement

Operated by the U.S. Federal Reserve Banks, the Fedwire Funds Service is one of the four fundamental large-payment systems in the United States. Driven by increasing international adoption of ISO 20022 and the desire to provide better payment services to its customers, the Fedwire Funds Service announced that it would adopt ISO 20022 standards by the end of 2023.

Similarly, in Japan, the Bank of Japan Financial Network System (BOJ-NET) has been in operation since 1988 and is an extension to Zengin that handles transactions over JPY 100 million. The new version BOJ-NET was launched in October 2015, with support for ISO 20022.

The rationale for upgrading high-value payment systems is not unlike that of ACH and real-time payment systems insofar that payments on newer systems provide business benefits including better insight and STP in settlement. Yet the real focus will come in the need for systems to streamline or become compatible with cross-border payments and align to accommodate cross-border instant payment schemes.

Cross-border payments

The challenge of standards is certainly more acute for cross-border payments as different jurisdictions may have completely different approaches to payment standards. Although ISO 20022 will significantly streamline communication, many of the ISO 20022 payment messages are very similar. This requires an element of off-line coordination to agree what messages are used in which scenarios.

It is no surprise therefore that SWIFT is playing a significant role in coordinating the shift of cross-border payments to ISO 20022 and sees the standard as an eventual replacement for its own MT standard. In April 2018, SWIFT launched a "full-scale community consultation" to review its strategy for migrating existing cross border payment services to ISO 20022. It has a plan to make cross-border transactions via ISO 20022 available by 2021 and will completely migrate to the standard in 2025.

The timing of the change will be coordinated with the migration of the TARGET2 high-value payment system, which will switch to ISO 20022 in November 2021, and in the U.S., where the Federal Reserve and The Clearing House plan to roll out ISO 20022 for high-value transactions starting in the first quarter of 2022. SWIFT estimates that by 2023, around 80% of the volume and 90% of the value of high-value payments worldwide will use the ISO 20022 standard.

ISO 20022 will also drive the convergence of multiple platforms especially around real-time cross-border payments, which has been a big focus of the industry in Asia Pacific. A 2018 trial conducted by SWIFT leveraging the GPI platform successfully sent payments from a domestic account in China to a domestic account in Australia in under a minute. While the trial was between specific banks and specific accounts, with ISO 20022, the platform could conceivably be expanded to all domestic accounts without much client change required. This would allow seamless real-time cross-border payments from domestic account to domestic account.
Deriving value: ISO 20022 benefits

No one single benefit defines the key business value of migration to ISO 20022, but rather a range of features are driving adoption and ROI.

Extensibility that future-proofs the ISO 20022 standard and enables new products and services

One of the most essential ISO 20022 concepts is extensibility. ISO 20022 sets out a structure and framework for developing consistent standards across the financial industry but does not limit the business processes that can be created to leverage the framework.

If there is a need for a new type of message, such as one related to mortgage payments, or a new esoteric derivative that has a complex settlement process, that business process can be defined within the ISO 20022 standard. Further, all of the elements within the ISO 20022 standard are reusable, so organizations only need to map each field to their internal systems once and that connection can be leveraged across all ISO 20022 business processes.

This extensibility ‘future-proofs’ the ISO 20022 standard as there is effectively no limit to the business processes that can be defined and incorporated in the framework. Banks are better able to service future customer needs with new unique and potentially fee-driven, products and services. It also ensures that the investment will not be wasted with a change to a new future standard.

Standardized message types and formats improve STP both internally and externally

As the financial industry grows in complexity, there is a significant challenge in ensuring that financial messages, payments or otherwise, achieve STP. The industry has put considerable effort over the past decade in achieving STP. However, as the industry changes, it’s often a never-ending battle for financial institutions and vendors to keep up, but even small improvements can deliver attractive cost reductions.

As payment platforms update their systems to support ISO 20022 and new platforms launch with native ISO 20022 support, it will become easier to deal with system changes. As the standard is extensible, any changes to existing systems should involve the definition of a new business process but require little additional work for entities that connect into that system. For both existing and future financial message types and methods, ISO 20022 can reduce internal costs and increase efficiency.

The consistency of the ISO 20022 standards helps in a few aspects of STP:

- Internally, banks and corporates can use ISO 20022 to streamline their internal financial messaging amongst payment, capital markets, and other financial systems to decrease complexity and increase STP.
- Externally, banks can provide additional value-add to customers such as integration with ERP or corporate payment systems that are also on ISO 20022 to both enable STP and broaden the range of available products and services.
Finally, ISO 20022 opens up the possibility of more effective cross-border real-time STP, which is a clear vision in the South-East Asia region.

For example, leveraging SWIFT, a payment message that originates on Singapore’s domestic G3 payment system using the ISO 20022 standards, could be sent through SWIFT’s GPI to Thailand’s domestic PromptPay, achieving streamlined cross-border real-time STP. Even without SWIFT, South-East Asia, through the ASEAN Payment Network, is moving towards direct cross-border connectivity between real-time domestic payment systems.

**Enabling open banking**

The ISO 20022 standard will also help with the shift to Open Banking and API adoption. Many banks have published very detailed lists of APIs that external parties can connect to in order to leverage the banks’ products and services. Often these use proprietary semantics and syntax that make it challenging for external corporates or fintechs to connect easily.

ISO 20022 can streamline this by making messaging consistent across banks and users. As an example, the UK’s Open Banking initiative defines ISO 20022 derived API specifications to ensure that payments data, whether exchanged via message or API, is consistently defined along the entire value chain.

Within these efforts, ISO 20022’s re-usability should help to standardize API syntax and make it easier and more cost-effective for external parties to use APIs. It also means that financial institutions only need to map each element to their internal data structures once with ISO 20022 providing common end-to-end language.
More data = better services = additional value add

The ISO 20022 standard provides significant value in terms of additional data capabilities. Considering remittances as an example – much of the present-day payment infrastructure around the world has been designed and optimized for throughput and compliance.

Although businesses may need to incorporate additional transaction data or information in remittance type payments, handling that data has not been a high priority for financial institutions. Many of today’s existing payment message standards have the capability to include remittance data, but it is typically limited.

As an example, the current U.S. Fedwire system limits sending and receiving names to 35 characters, without a separate note field for a country code. Similarly, a standard domestic real-time payment in Japan can only handle 20 characters. This causes problems when matching payments and often results in significant manual reconciliation.

ISO 20022 provides extended remittance information (ERI), as well as longer data fields to allow the use of a full name. Supporting a larger message format should increase STP, and as the message is structured from end to end, it can enable real-time payment tracking for each party.

The ability to incorporate more data into a payment message is critical for banks to be able to provide additional value for their customers.

As an example, in many non-ISO 20022 payment systems, if a business needed to include information on specific invoices that a payment was referring to, the business would need to either manually convey that information to the beneficiary or use a 3rd party solution. The ISO 20022 payment standard allows additional remittance information so the customer can seamlessly reconcile incoming payments.

Continuing the example, if the transaction is part of a trade, ISO 20022 allows for the definition of more meaningful business concepts. In a trade transaction, this could include components such as ‘Account,’ ‘Trade,’ and ‘Party.’ These could then be further defined through business elements such as trade date / time, trade price and trade place. For both the buyer and the supplier, the basic payment data is suddenly much more valuable as the payment has significantly more information about the underlying transaction.

ISO 20022 standards encourage higher quality and accuracy of data. As business models are specified in the repository, financial messages are sent through with a complete set of data that is required for any process. This is especially useful for Know Your Customer (KYC) or anti money-laundering efforts where data can be critical – especially as banks move to real-time payments and the time to perform a KYC check becomes even more compressed.
ISO 20022's Remittance Advice message is a robust message capable of carrying a large amount of data structured in such a way as to facilitate a number of common use cases. In an ISO20022 Remittance Advice message, the invoice is a “Referred Document.” Other examples of Referred Documents could include credit memos, purchase orders, bills of lading, shipping documents and monthly statements. These documents are typically tied to a single payment, or a single payment may refer to multiple documents.

A remittance advice message with accompanying invoice information would be similar to the following:

Remittance Advice message
  Remittance Information
    Structured Remittance Information
      Referred Document Information
      Referred Document Amount
    Structured Remittance Information
      Referred Document Information
      Referred Document Amount
    Original Payment Information

End of message
Payments convergence & considerations in payment system modernization

In many countries and regions around the world, we are starting to see the convergence of payment rails, especially with ACH, as the lines between payment systems blur.

For example, in India, ACH and RTGS systems run on the same rails, but the differentiation between payments (e.g., settlement cycles, delivery time, fees, and client interfaces) happens outside the rails. In the UK, BACS volumes will move on to the New Payments Architecture infrastructure which will process both ACH and real-time payments.

Payment system convergence is part of a more significant trend within the industry as systems such as low-value ACH payments, real-time payments, and high-value payments start to run across the same payment rails. Generally, ACH payment platforms are looking to shorten their clearing cycles in the process, often making their services more attractive for corporate treasurers, who would typically use more costly RTGS systems.

Despite this consolidation, low-value ACH systems remain an essential part of global payment infrastructure. ISO 20022 gives these platforms a new relevance and enables additional customer value.

Enabled by a general industry push since about 2012 to move to real-time payments, and the ISO 20022 standard, we are seeing modernization across all segments of the market including real-time payments, high-value payment systems, and cross border payments as SWIFT pushes banks onto MX.

ISO 20022 Development Focus

With convergence and modernization happening across the industry, it is useful for organizations to consider a holistic view to payment system upgrades and replacements. As the industry itself consolidates, it makes sense for banks and corporates to do the same to lower cost, streamline STP, and provide consolidated products and services.
ISO 20022 & cost reduction

Based on the speed and nature of the global migration to ISO 20022, moving to the standard is not so much of a question of 'if,' but 'when.' For many organizations, the challenge with 'when' is migration cost. The implementation of ISO 20022 in the SEPA provides an illustrative example.

The implementation of SEPA in 2008 was a watershed moment for Europe's financial industry as the platform opened up seamless cross-border financial payments across the 28-member states of the European Union, as well as the four member states of the European Free Trade Association (Iceland, Liechtenstein, Norway, and Switzerland), and Andorra, Monaco, San Marino, and Vatican City.

Initially, SEPA credit transfers and direct debits often took a long time to complete and at a significant cost. Under the latest SEPA instant credit transfer system, cross-border credit transfers can now happen in real-time with significantly reduced transaction costs, in some cases reduced by nearly 95%. Although the uptake of the instant transfers is still somewhat low, this will be an important system for small and medium enterprises who can receive international payments as they would domestic.

A study by Europe Economics did for the UK’s Payment System Regulator in 2017 found that SEPA ISO 20022 migration costs for users of payment systems were usually less than 10% of annual payment processing costs, while for PSPs they typically represented over 70%, with systems costs being the main cost. Total transition costs for SEPA were estimated at US$13.8 billion, of which, about US$9 billion were attributable to the ISO 20022 transition.

The transition to SEPA and ISO 20022 in Europe led to cheaper, faster, and more accurate payments, but in other jurisdictions, there can be additional benefits of moving to ISO 20022. The Canadian Payments Association estimated migration to the ISO 20022 standard could save Canadian business and institutions as much as US$4.5 billion over five years just from the elimination of checks.

Beyond checks, ISO 20022 can also help prevent fraud. A study by UK Finance found that “Authorized Push Payment (APP)” scams, where people are duped into sending money to a fraudster’s account, affected almost 43,000 individuals in 2017, costing them over US$300 million. The ISO 20022 specification contains a ‘purpose code’ field that could help detect and prevent this type of fraud. PSPs could set up accounts such that payments received with a purpose code which is not consistent with the customer’s stated use of the account are flagged as potentially fraudulent transactions.
The future

With payment platforms globally supporting the standard including SWIFT, the shift to ISO 20022 is inevitable. By 2025, we would expect nearly all ACH, real-time, and high-value / cross-border platforms to be using the ISO 20022 standard.

For banks and financial institutions, this means that migration is not an ‘if’ but a ‘when.’ But of course, as it is for any technology investment, many banks and financial institutions are still trying to define a compelling business case to justify the transition. The answer lies in enhanced data capabilities and increased processing efficiency.

ISO 20022 will drive use cases and business models that support new capabilities, such as real-time cross-border and tokenized payments, as it also helps to enable seamless data translation. Additional data handling such as the remittance example above are just one of many potential ways that ISO 20022 can add significant value.

ISO 20022 will likely be a standard of choice for domestic messaging as well. This not only simplifies financial communication at a local level, it also facilitates future interoperability of cross-border and domestic systems – effectively a convergence of modern payment systems. ISO 20022 has already become the dominant standard for instant payments, with implementations in Australia, the U.S., Canada, Europe, and Singapore. ISO 20022 is also growing in securities and foreign currency exchange markets.

Hopefully, the benefits and scenarios laid out above will provide banks with food for thought and some potential additional ways of looking and measuring any migration to ISO 20022. Ultimately, banks need to understand how payment data moves between them and their clients currently, and then make judgments on where changes are necessary to ensure higher STP or speed of payments.

For many banks, the shift to ISO 20022 will also be a process, as changes to internal systems may not happen at the same time. There will likely be many different flavors of how ISO 20022 is implemented, but ISO 20022 brings opportunity for more interoperability and innovation transfer.

Although the destination is the same, the way to get there for each bank may be different. The important thing is that they are speaking the same language when they finally do.
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About Kapronasia

Kapronasia is a leading provider of market research covering banking, payments, capital markets, and insurance. From our offices in Shanghai, Hong Kong, New Delhi, and Singapore, we provide clients across the region the insight they need to understand and take advantage of their highest-value opportunities in Asia and help them to achieve and sustain a competitive advantage in the market.

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